PART II

Activities

"We believe that sharing archaeology with the public has many positive benefits. In the classroom, archaeology can be used to promote cultural awareness and sensitivity. It also can provide a means of teaching critical thinking, cooperative learning, problem solving, and citizenship skills."

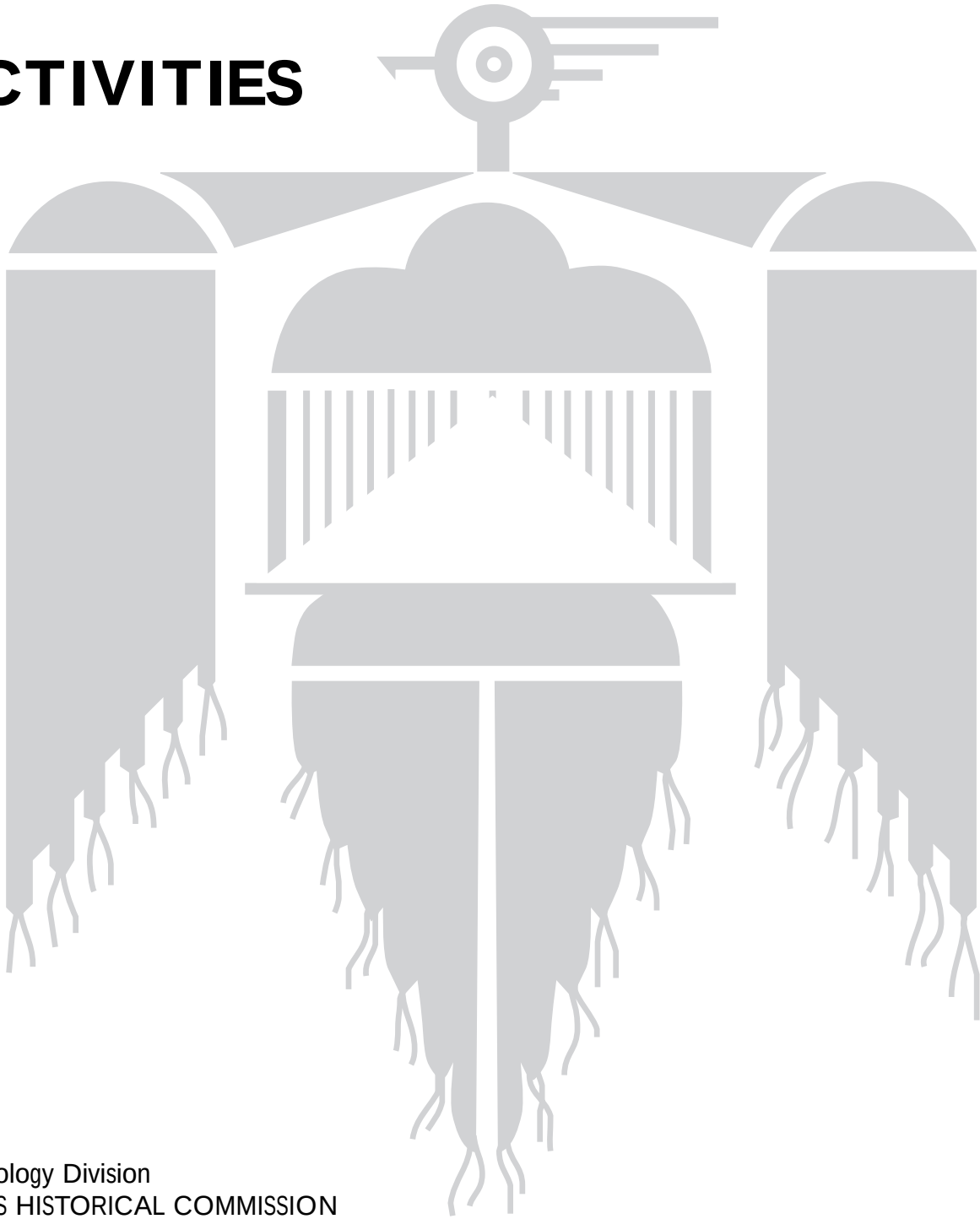
Society for American Archaeology
Archaeology and Public Education 6(1)

Historic preservation is "an excellent springboard for introducing concepts like scientific inquiry, the issues and ethics of conservation, cultural diversity, and problem solving. Recognizing the historical significance of ordinary objects helps young people make a personal connection to the past, and promotes respect for other people."

U.S., Department of the Interior
National Park Service
Our Fragile Legacy (brochure, 1997)

Archeology in the Classroom

ACTIVITIES



Archeology Division
TEXAS HISTORICAL COMMISSION
Austin 1998

Preface

These classroom activities are intended as an introduction to the basic methods and concepts of scientific archeology for teachers and students (primarily grades 4 through 7). Teachers may photocopy without permission any or all of this section for classroom use only. Other use of this material requires permission from: Archeology Division, Texas Historical Commission, P.O. Box 12276, Austin, TX 78711-2276.

Because of the nature of archeology, some of the technical and cultural terms used may be new to young readers. An attempt has been made to identify some of the most troublesome terms and "highlight" them in **boldface** type. Definitions of terms that appear in boldface, as well as the definitions of other technical terms, are included in the Glossary at the end of Part I.

We are deeply indebted to the teachers who have allowed us to use or adapt their work for inclusion here. We wish to acknowledge also the Society for American Archaeology's newsletter, *Archaeology and Public Education,* which includes lesson plans developed and classroom tested by teachers. This compilation of activities would not have been possible without these teachers—and there would be no point in it without the participation of classroom teachers all across Texas.

Teaching Archeological Time Periods

Adapted from an activity plan by Deborah Butler Hannus, in *Insight*, Vol. 4 (Fall 1990), p.5 (Newsletter of the Educational Services, Texas State Historical Association, Austin).

Rationale

Why teach archeological time periods? In the teaching of mathematics, it is understood that the multiplication tables must be mastered before more advanced problems can be solved. In the teaching of archeology, the concept of prehistoric time periods must be understood before students can understand the time periods of past cultures.

Objective

To understand the major time periods of prehistory as the framework in which studies of prehistoric cultures are made.

Age Level

Grades 4 through 7.

Special Materials

Copies of handout (on reverse of this page)

Time Required:

15 to 20 minutes for background discussion or reading; 30 to 40 minutes for activity and follow-up discussion.

Background—

What Are Archeological Time Periods?

American Indians had lived in the New World for thousands of years before European contact (about 500 years ago). Because the first Americans had not developed a written language, the time period in North America before the arrival of the Europeans is called "prehistoric."

North American prehistory is divided into three periods: Paleoindian, Archaic, and Late Prehistoric. The years after European contact are called "Historic." While information on prehistoric times is limited, some lifeways have been defined through archeological investigations.

For more extensive background information, see Part I of this unit for teachers.

Procedures—

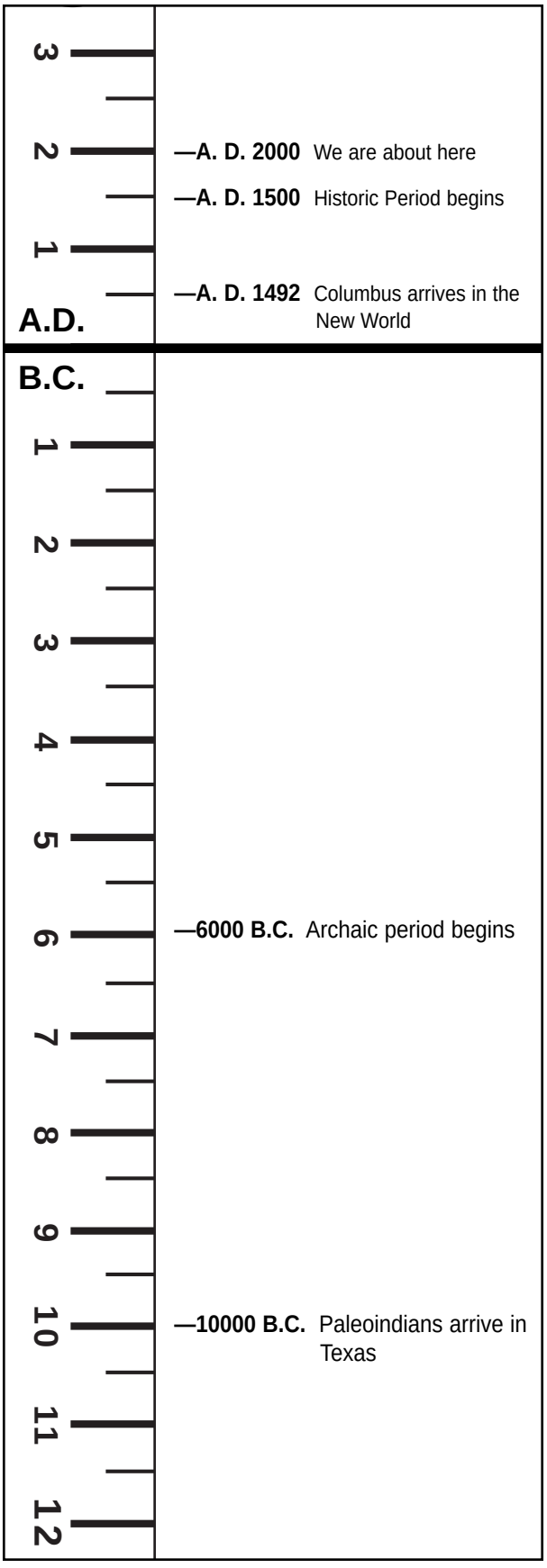
How Can Time Periods Be Taught?

1. Before initiating this activity, prepare a bulletin board to represent a profile of archeological strata. Each stratum in the profile should represent one of the four time periods, with the most recent at the top. Use the drawing of site strata in the Background section of this unit as your model (see figure in Part I, "How Archeologists Work").

2. Begin with "Prehistoric Time Periods" (on reverse of this page). Together, read about, and then discuss in detail, the four archeological time periods.

3. Divide the class into four groups and assign each group a different time period. Each of the groups is then asked to list several artifacts that might be found in their stratum or time period. For example, a stratum for the Archaic period might contain projectile points, a *mano* and *metate,* animal bones, and stones for a hearth (replicas of objects to be placed in the bulletin board "strata" can be made of construction paper).

4. After each group has come up with artifacts for their time period, the students label the period and supply the approximate dates. The completed bulletin board is a good visual teaching tool to help the students remember archeological time periods.



MEASURING PERIODS OF TIME

There are different ways of talking about time. Scientists sometimes use **B.P.** ("before the present"), which simply means before a set date in the modern period (A.D. 1950). When we say "about 12,000 years ago," we are also talking about time before the present.

To talk about the dates of time in the past, we also use the terms **A.D.** and **B.C.** A.D. means "anno Domini" (or "in the year of our Lord"). B.C. means "before Christ." When you say "I was born in 1987," you do not have to use A.D. because everyone understands what you mean. When we say, "The Archaic period of prehistory in Texas lasted from about 6,000 B.C. to A.D. 500," we have to use the abbreviations for the dates to make sense.

Some scientists use the abbreviations **C.E.** and **B.C.E.** In this system, C.E. stands for "Common Era" but refers to the same time period as A.D. And B.C. E. ("Before the Common Era") refers to the same time period as B.C. Most scientists, historians, and teachers still use A.D. and B.C.

Imagine that A.D. and B.C. are ways of measuring time on two rulers marked with the inches in opposite directions. One ruler measures years before the birth of Christ and the other measures years after the birth of Christ.

The illustration here shows prehistoric and historic periods in the A.D. and B.C. time scale. Each inch mark on the rulers stands for 1,000 years.

Using the "time ruler" makes it easy to see that the Paleoindian and Archaic periods were much longer than the Historic period. It is also easy to see that the Indians were here for thousands of years before the coming of European explorers and settlers.

If you know about the time periods of the dinosaurs, it is also easy to see that human beings have inhabited the earth for a very short period of the planet's history.

CHRONOLOGY—

The Time of My Life

Reprinted from *The Intriguing Past: Fundamentals of Archaeology* (U.S. Department of the Interior, Bureau of Land Management).

Rationale

In their study of **chronology** the students will use personal **timelines** and an activity sheet in an activity involving discussion, problem solving, analogy, and forecasting.

Objectives

• Attempt to order a classmate's timeline and demonstrate the importance of intact information to achieve accuracy.

• Compare their timelines with the chronological information contained in a stratified archeological site.

• Test the following skills: knowledge, comprehension, application, analysis evaluation

Age Level

Grades 4 through 7.

Special Materials

Ten strips of colored paper, scissors, glue, ruler for each student;

Copies of "The Time of My Life," "The Life of _____," and "Stratigraphic Section" activity sheets for each student.

Time Required

15 to 20 minutes for background discussion or reading; 30 to 40 minutes for activity/discussion.

Background

The proper sequence of events must be known when trying to understand the past. Chronological order means that events are arranged in the order of occurrence, establishing a chronology. One way to display events visually in chronological order is with a timeline. A timeline is divided into equal time segments (month, year, or century, for example), with one end representing the oldest events and the other end the most recent events.

Chronology is something we all use everyday. When somebody tells us a story or when we watch a news report, it only makes sense if we can understand the story as it happened. Archeologists always try to establish the age of the sites, artifacts, or events they are studying so that they can place them in chronological order. Each piece of information contributes to understanding the overall story of the past, but only if the information can be placed in chronological order.

Archeological data are often buried. Sites become buried by the deposition of small-grained particles (sand or dirt) through the action of wind, gravity, and water. When archeologists dig a site, they record the location of what they find, so that chronological order can be established. Objects discovered at the bottom of pits dug by archeologists are the oldest, while those near the surface are the youngest.

When vandals and artifact-seekers dig a site or collect artifacts from the surface, they remove objects which could place the site in time, and therefore, the archeologist cannot learn the site's chronological placement. Vandals mix the stratigraphic layers together and archeological events cannot be placed in order. A page of the past has been torn up and thrown away, destroyed forever.

Everyone can help stop this problem by not digging in sites or collecting artifacts, by refusing to buy artifacts from people who dig and destroy sites, and by reporting people they see digging and collecting artifacts on public land to law enforcement officials.

Setting the Stage:

Tell the story of Goldilocks out of sequence, leaving some parts out. Ask students to describe the problems with the story. Why is it important to relate sequential information, including all the important details?

Procedure

1. Define chronology and state the necessity of establishing chronological order when studying the past. Assign each student a teammate for exchanging timelines.

2. Have the students list ten events in their lives, one on each of the ten strips of colored paper. Next to each event, students list or draw an object that might symbolize that event. These events should not have obvious time links, such as "my eighth birthday party," or "I started 4th grade." The events could be things like "my sister was born (rattle)," "the family moved (moving van)," "we went to Yellowstone on vacation (tent)." Students should try to include events from their entire lives.

3. Students then shuffle their strips and exchange them with another student, who tries to lay the strips out in correct chronological order with the most recent at the top.

4. The two students who have exchanged strips then tell each other their best guess of the proper chronological order. The strips are then returned to their owners. This is usually a humorous experience for students.

5. Discuss: Were you able to reconstruct the timeline correctly? Why or why not? It is difficult, sometimes impossible, to reconstruct a story if the order of events is not known.

6. Ask students to randomly remove four events from their personal timeline. Ask students if the chronological order would have been more difficult to construct and if the story of their classmate would have been as complete if there were even fewer strips. Connect this activity to archeological sites by stressing how archeological data is usually impossible to place in chronological order if artifact collectors have dug up a site (like mixing up the event strips) or if people have removed artifacts (equivalent to removing some of the event strips).

7. Distribute the "The Life of _____" activity sheet. Students glue their own strips on a piece of backing paper, in chronological order beginning with the most recent event at the top. They can write the year of the event (or they can number the events one through ten) in the column to the left of their strips.

Closure

1. Distribute a copy of the "Stratigraphic Section" activity sheet to each student. Have them lay their timeline next to it.

2. Use the sheet and their timelines to explore the following questions:

   a. What do you notice about the information on the "Stratigraphic Section" activity sheet?

   b. In what ways is the "Stratigraphic Section" activity sheet similar to your timeline? In what ways is it different?

   c. Imagine that you cannot remember significant events in your life. How would that change the history of your life?

   d. Does digging in an archeological site result in the loss of information about the past?

   e. In what ways is a hole dug by vandals in an archeological site similar to a loss of significant events in your life?

   f. In summary, what might you say to an artifact collector about the importance of leaving sites undisturbed?

Evaluation

Have the students complete the "The Time of My Life" activity sheet or use it for a discussion. Or ask the students to present an extemporaneous persuasive speech that defines chronology as used by the archeologist and explain the importance of intact sites for establishing chronological order.

The Time of My Life Activity Sheet Answers

1. Students should express regret, or a feeling of being upset. For someone to shamelessly destroy the only evidence of another's life indicates that they have little respect for the meaning of that person's life.

2. By extension of the previous question, students should link their feelings about destruction of their timeline to destruction of evidence of past peoples' lives.

The Time of My Life: Name: _____

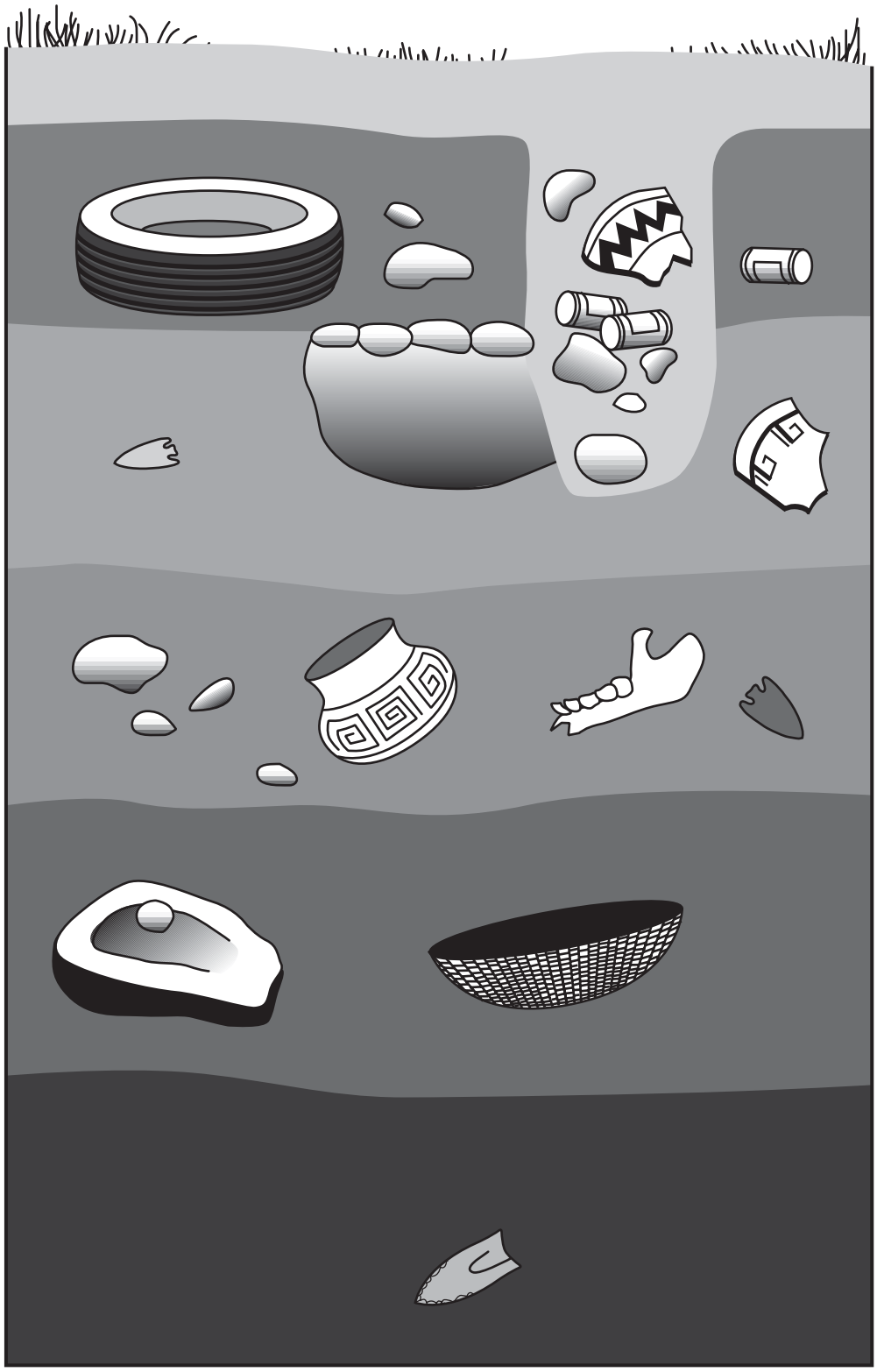
1. Write a short paragraph about how you would feel if your timeline was all that would ever be known of you and somebody tore up part of it.

2. How do you think an archeologist feels when she or he visits a site that has been dug up by vandals?

The Life of _____

Today	

STRATIGRAPHIC SECTION



0–200
YEARS AGO

200–800
YEARS AGO

800–1500
YEARS AGO

1500–8000
YEARS AGO

8000–12000
YEARS AGO

Making and Using Archeological Maps

Adapted from *Archaeologists Use Maps,* by Cynthia S. Bradley, Ricky R. Lightfoot, and Patricia M. Wheat, Crow Canyon Archaeological Center, Cortez Colorado, 1995.

Rationale

Participants work with two maps as examples of the different kinds of maps that are made and used by archeologists, discovering how different parts of a site may be shown on maps.

Objective

To understand the concepts of scale and distance, to understand how a grid is used in mapping, and to provide experience in using metric measurements.

Age Level

Grades 4 through 7.

Special Materials

Copies of handout
Map pencils
Index cards or stiff paper strips for making rulers

Time Required

Allow one classroom period for students to become familiar with "How Archeologists Work" (in Part I of this unit), for general discussion of maps, and to read and discuss the Background for this activity. Allow one classroom period for quick review of the background information and completion of the activity sheets.

Procedure

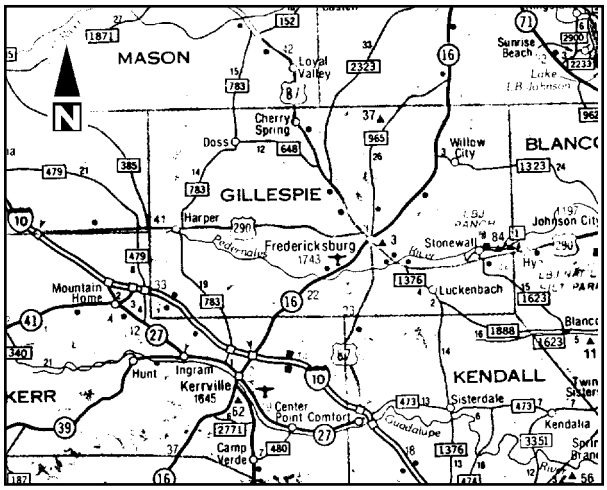
Discuss or have the students read "How Archeologists Work." Briefly discuss maps in general, making the following points. The maps with which we are most familiar (road maps) show distances from one place to another, as well as the locations of places (such as cities, streets, rivers). These maps can also be studied for comparative data; for example, how many counties in Texas contain no large cities. Which counties contain no major rivers?

Anyone can make a map. People often draw maps to show others how to get to their house or work place.

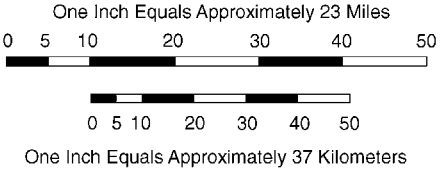
Maps are also made to show special information. A **topographic** map shows land forms as well as man-made structures. This kind of map is useful where there are no streets or roads.

Read aloud or distribute copies of the Background Information for this activity.

(Activity continued on next page)



This is a section of an ordinary roadmap. Maps like this are most useful for finding the locations of towns and the best routes and distances between towns. Compare this to the topographic map on the next page. The "topo" map uses a much larger scale. The scale for this road map is shown below.



Background: How Archeologists Use Maps

Archeologists make and use many different kinds of maps. For example, archeologists use **topographic maps** for recording sites. The exact location of each site is noted on the topographic map of the area.

Site Maps

When a site is excavated, the archeologist uses surveyor's instruments to make an accurate **site map,** showing the location of every **feature** (a feature is a part of the site, such as a hearth or the remains of a structure). The archeologist uses wooden stakes and string to divide the site into measured units. This forms a **grid**, which helps the archeologist keep accurate records of exactly where things are found. Only then is the archeologist ready to excavate.

The archeologist digs in a grid **unit** on the surface and in carefully measured levels downward. Each unit that is being excavated is assigned a number. The location of each excavated area is added to the site map.

In order to show more details, the archeologist may make another map of only part of a site. A separate map may be made of only one feature, such as a house. The map of the house may show only the clues left by the structure itself (such as a ring of stones, or the remains of rotted logs). Another map of the same house may show where each artifact was found inside the structure.

Artifact Distribution Maps

If a great many artifacts are found, the archeologist may make a map for each different kind of artifact. The maps will show the distribution of the artifacts in the site. For example, one map may show the locations of pottery sherds, one map may show food bones, and one map may show stone tools. Or, the archeologist may make one map of the house and use different colors and symbols to show the locations and numbers of the different artifacts.

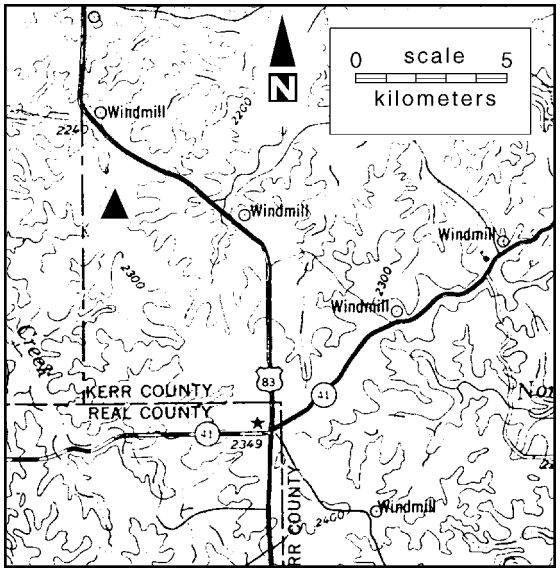
These artifact distribution maps can be clues to special activity areas in a site. Many stone chips, for example, mark the place where stone tools were made.

The Parts of a Map

If symbols (such as triangles or circles), colors, or abbreviations are used on the map, the map must have a **key.** The key shows each item that has a special meaning, and then gives the meaning of that symbol, color, or abbreviation.

Each map must have a **scale,** which is used to measure size and distance within the map. Maps are drawn on graph paper, and each square on the paper is given a distance value; for example, a 1/4 inch square equals one meter. The scale must be shown on each map.

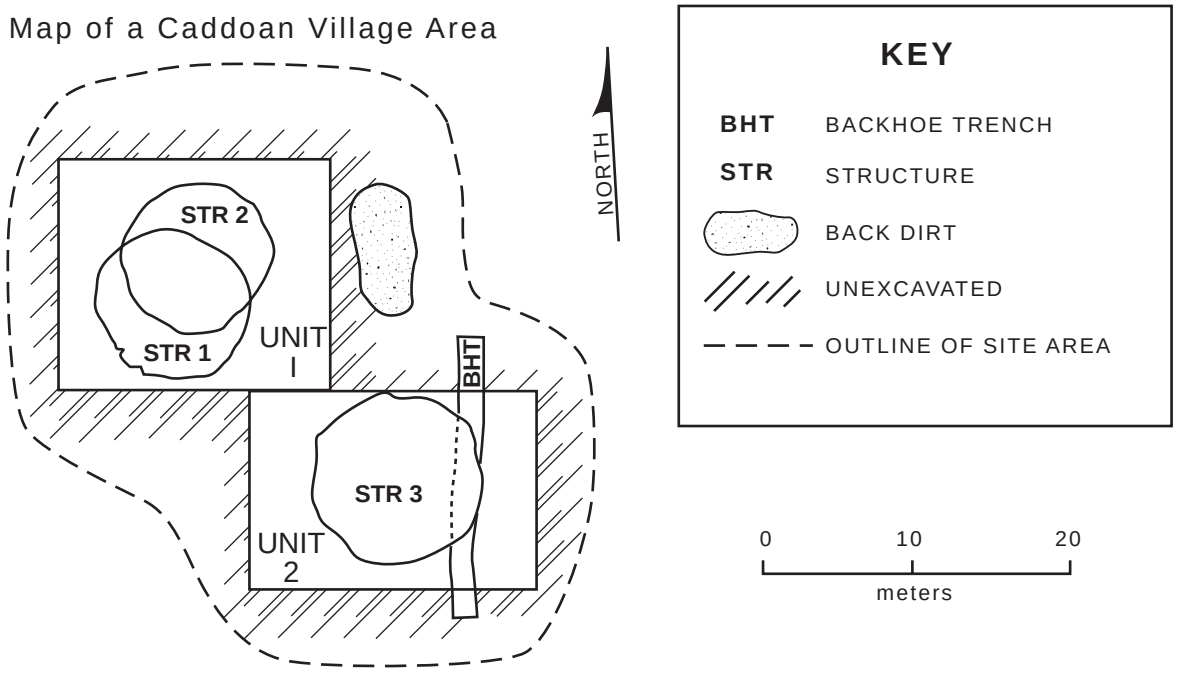
Each map must also have a **north arrow.** If possible, a map should always be drawn so that north is at the top of the map.



This is a section of a topographic map of central Texas The fine, wavy lines are contour lines, which show elevations in the ground surface. The triangle on the left is the symbol for an archeological site location.

(Activity continued on next page)

Worksheet: A Caddoan Site in East Texas



AREA D EXCAVATION PLAN

1. To use the scale at the bottom of the map, make a "scale ruler" by carefully copying the scale on the edge of an index card or a stiff piece of paper. Use your scale ruler to measure:

Greatest east-west dimension of site area:

_____

Greatest north-south dimension of site area:

_____

Diameter of STR 1: _____

Diameter of STR 2: _____

Size of Excavation Unit 1 expressed as square meters: _____

2. Check the statement below that you think is the best explanation for the overlapping of structures 1 and 2:

___ (a) This was the first house these villagers ever built, and they made a mistake by building the houses so close together that the walls overlapped.

___ (b) The archeologist did not have enough room on the map to draw the two houses far enough apart.

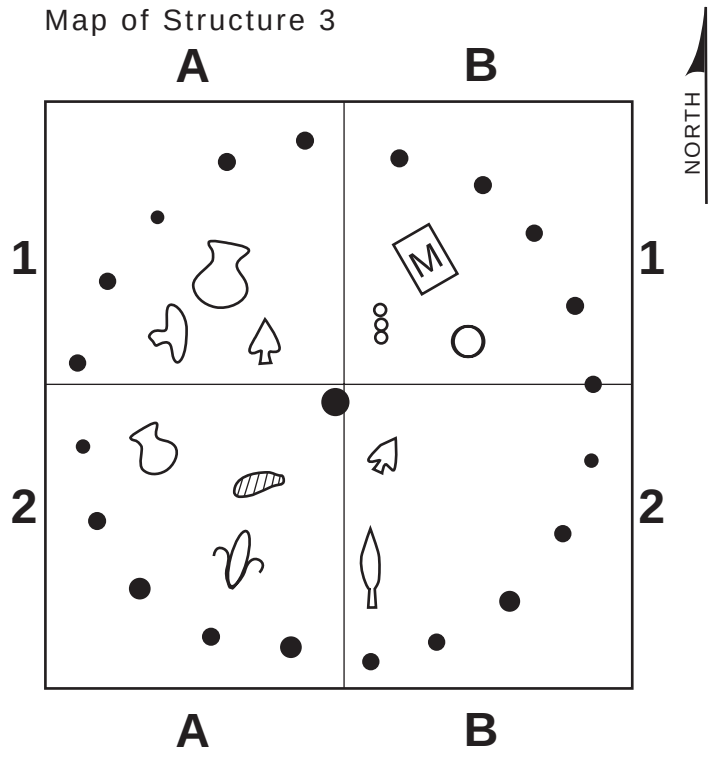
___ (c) People had lived in this village for a long time, and Structure 1 (the house in the upper level) was built at a place where an older house had burned to the ground many years before.

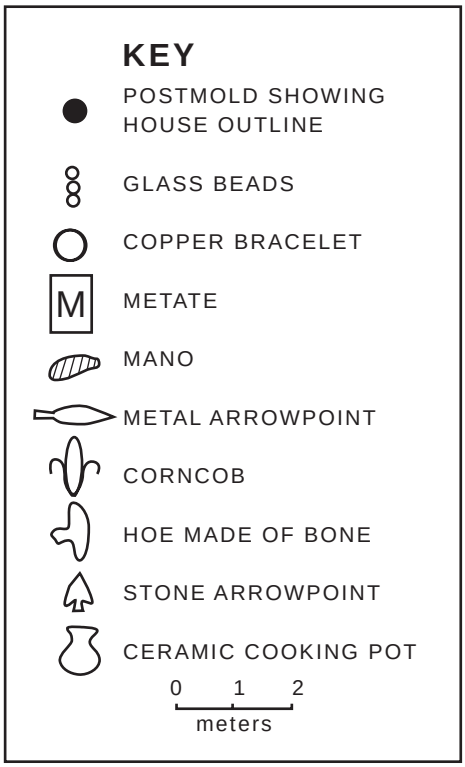
3. Practice making a map key by tracing this map and the map on the next page using colors instead of symbols and abbreviations. Make a "color key" that gives the meaning of each color you used.

(Activity continued on next page)

Worksheet: Excavation of a Caddoan House

Map of Structure 3





1. Use the key to list what was found in each grid square.

Grid Square	***What was found in each grid square:***		
1A	_____	_____	_____
2A	_____	_____	_____
1B	_____	_____	_____
2B	_____	_____	_____

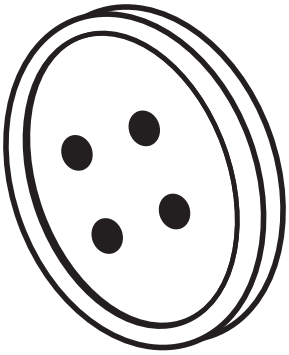
2. What evidence of agriculture was found? _____

3. What evidence of hunting was found? _____

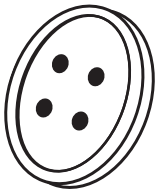
4. What evidence of food processing was found? _____

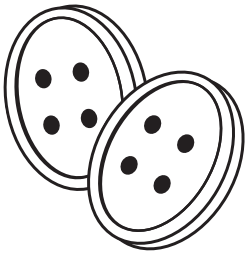
5. What personal items were found? _____

6. Which artifacts are evidence that this is a site that dates from the period of European Contact? _____



Button, Button—Lesson Plan





Adapted from a lesson plan prepared by KC Smith and Lisa Sharik, Museum of Florida History, Division of Historical Resources, Florida Department of State.

Rationale

By taking a close look at the simple and familiar button, students learn how archeologists examine and group artifacts.

Objectives

to classify into sets by **attributes**
to calculate percentages
to make measurements in the metric system

Age Level

Grades 4 through adult

Special Materials

For each participant:

- "Button, Button" student handout

For each group:

- enough buttons of various sizes and materials for each group to have 10 buttons. You can ask the students to each bring in x number of buttons or you can provide enough for the exercise.
- "Button, Button" recording sheet, one per group
- metric rulers with millimeters, one per group

Time Required

Allow 15 minutes to prepare the materials and 30 to 40 minutes for completing the activity.

Background

Archeologists must record information on every artifact they uncover and analyze. Determining how to record an artifact is a difficult process. All artifacts do not fit easily into a specific category, and archeologists may be required to create a category for classifying an artifact. This classification may be based on observable **attributes** or on the artifact's probable function. Measurement is another part of the recording process. Once artifacts have been classified as to a type, information such as length, width, thickness or **diameter** is recorded. Archeologists use the metric system of measurement, since this is the scientific standard around the world. Their work takes them to many different countries, so one standard measurement must be used by all archeologists. Classification and measurement of artifacts are a basic part of the recording process.

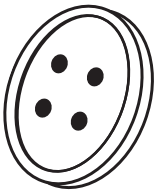
Preparation

Gather enough buttons for the activity or collect the buttons that your students have brought. Divide the buttons so that each group will get a **random sample** of 10 buttons.

Make copies of the "Button, Button" student handout and the recording sheet.

Procedure

1. Distribute the student handout and recording sheets; review the instructions and state how much time the groups will have to complete the activity. Answer any questions. (Note: the data from the worksheet may be placed in a computer spread sheet.)
2. Divide the students into groups of 4 to 6 people.
3. Distribute buttons and rulers to each team and give the signal to begin. Circulate among the teams, offering assistance as needed.
4. Give the signal to stop work and ask the team speakers to report their group's finding to the class.
5. Lead a discussion of the activity, using the questions listed on the student handout as a springboard.



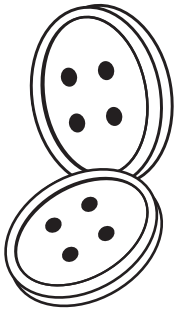
Button, Button—Student Handout

Select someone in your group to read the directions.

DIRECTIONS

1. Select one person to be the recorder-reporter. The recorder-reporter should be prepared to tell the entire class about this activity and its results. This individual also can participate in the activity.

2. Your task is to sort your collection of buttons into sets with similar characteristics. In archeology, a characteristic is called an attribute, and a set of objects with similar attributes is called a type. Before sorting begins, be sure to select several attributes to use as a basis for grouping the buttons into types. There are no right or wrong groupings, and there may be just a few or many types when the sorting is completed.

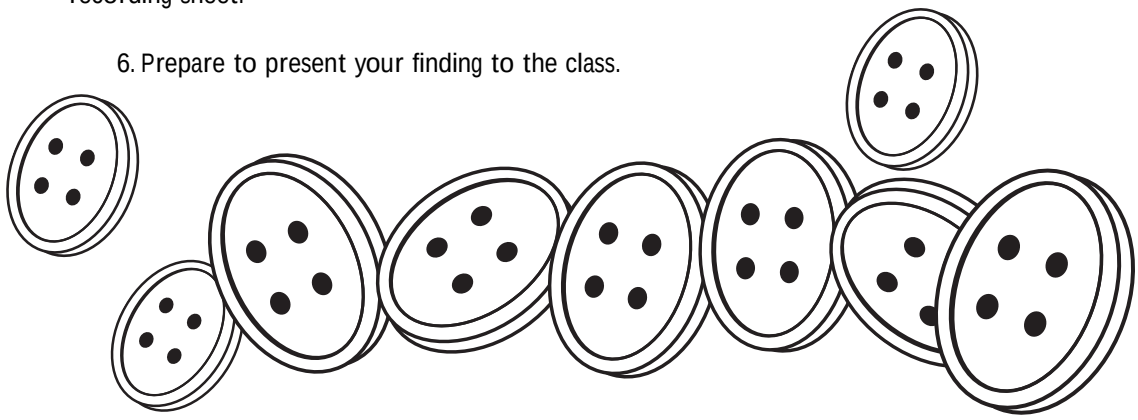


3. As you are working with the buttons, think about the following questions:
   a. What factors are helping you to select attributes?
   b. If you were an anthropologist or archeologist researching the use of buttons by a group of people, what questions could you answer based on the information you are recording?
   c. Can the buttons be sorted according to another set of criteria?
   d. What information is revealed by the statistical breakdown on your recording sheet?
   e. What does this activity have to do with archeological study methods?

4. When the buttons have been sorted, give each type a name and compute the percentage of the total collection. For example, if you have twenty buttons divided into four groups of five buttons each, then 25% are part of "x" type, 25% part of "y" type, and so forth. The recorder should complete the recording sheet, giving the name of each type, the attributes that define it, and its statistical relationship to the entire collection.

5. After sorting the buttons and completing the top half of the recording sheet, begin the measurement part of this activity. For each type that you have given a name, measure and describe the individual buttons within that type and record the information on the recording sheet.

6. Prepare to present your finding to the class.



Button, Button—Recording Sheet

Type	Attributes	Number of Buttons	Percentage of Total	Comments
[Example] color	blue color	5	25%	several shades of blue buttons

Type	Diameter	Material	Comments
[Example] blue button #1	3 mm	plastic	dark blue color; 2 holes

TERMINOLOGY—

The Naming of Parts

Rationale: By studying artifact terminology, students learn one of the techniques that archeologists use in studying past technologies.

Objective: To understand how objects can be described and how the application of terminology assists in discussion and analysis.

Age Level: Grades 4 through 7.

Special Materials: (1) Copies of Example sheets and Worksheets for each student (or each group)

Time Required: 15 to 20 minutes for background discussion or reading; 30 to 40 minutes for completion of exercise and follow-up discussion.

Procedures: Students should read (or have read to them) the background section. The exercise may be done individually or in small groups of 2 to 4 students. Upon completion of the exercise, discuss with the students the discussion questions at the bottom of the worksheet.

Background

When we use the word *parts,* we usually think of one of the parts of a larger system. For example, a wheel is part of a bicycle. But—to really study the bicycle in terms of how it was made and how it was used, we have to have a *terminology* (a set of special or technical terms) for discussing the parts, or **attributes,** of the wheel: the hub and its parts, the rim, the spokes, and the places at which these parts fit together. A terminology for all of the parts of the wheel cannot be developed without an understanding of how the wheel works.

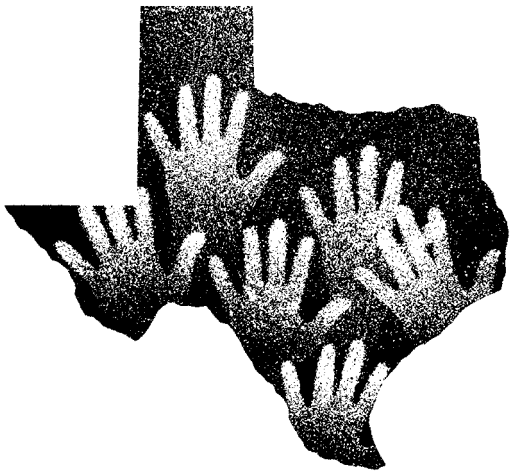
Identifying, naming, describing, and measuring the parts of an artifact assists the archeologist in studying, describing, and categorizing differences in style and technology. For example, an archeologist can place projectile points in categories even if the styles of the points do not yet have names. The categories would be based on the established terminology for describing the different parts of the points.

Why is terminology so important? Consider this: You may be the archeologist who discovers the first spear point made by a Paleoindian culture that is older than Clovis. Since you are familiar with the terminology of projectile point attributes, you can describe the artifact, give exact measurements, and tell that it is different from all other projectile points—and that it *is* a projectile point and not some other kind of stone tool. If you can't name and describe the parts, you could only show people photographs or drawings and say, "Look, it's a spear point but it's different."

Terminology also is essential to preparing tables and charts, which are really useful in the study of artifacts. For example, you may recover the base parts of 5 arrowpoints that have stems. These can be entered into a table under the stemmed specimens category as "miscellaneous" or "unidentified" *stemmed* specimens. You will also be able to enter a measurement for the stems. This kind of information is much more useful than describing the 5 fragments (along with all other fragments) as *unidentified* projectile points.

Terminology is also efficient. Imagine if we had no names for body parts and you had to describe your hand every time you wanted to refer to it. You could call it "the multi-digital, flattend end section of my arm."

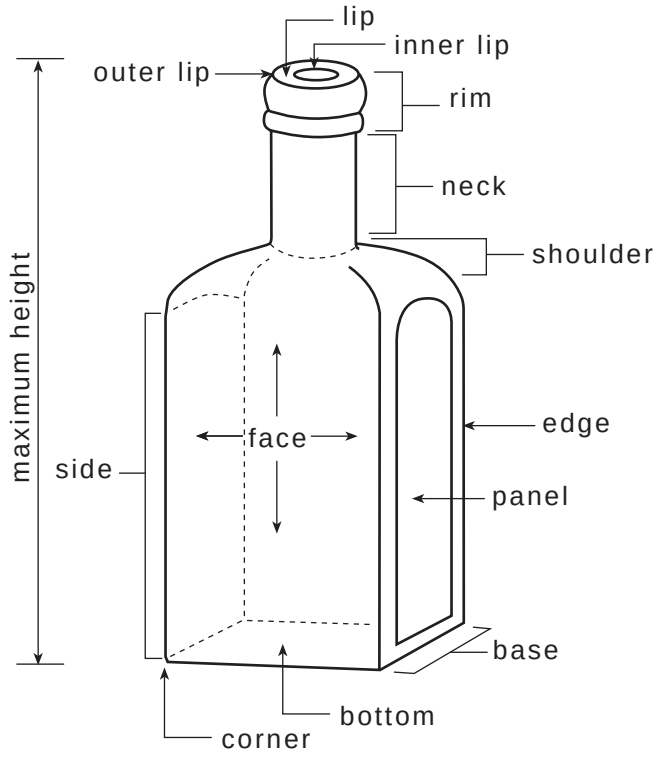
Now that you've gotten the picture, try your hand at naming the parts!



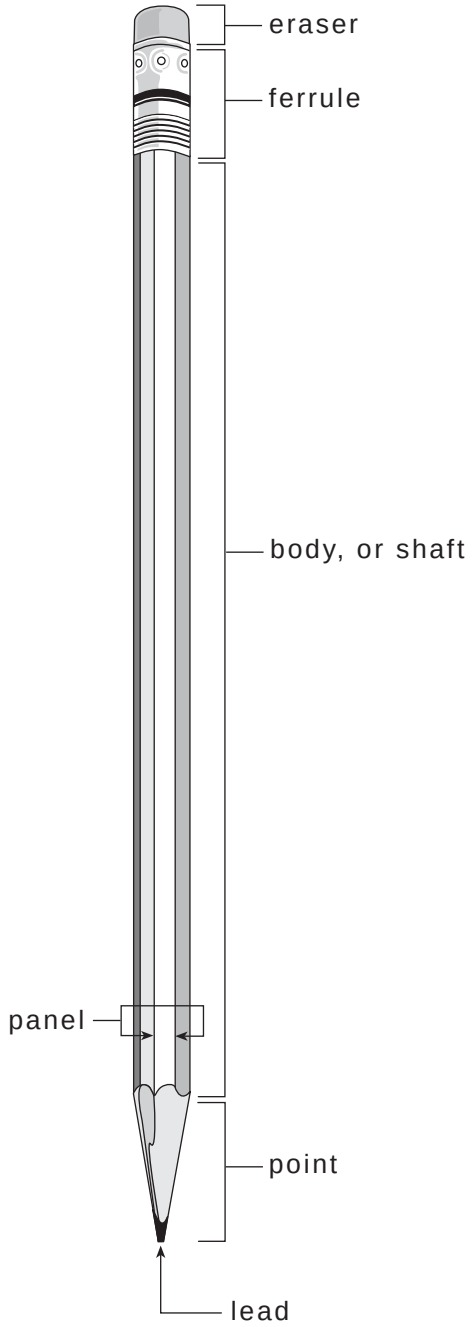
Rock art handprints symbolize teamwork in the logo of the Texas Archeological Stewardship Network.

Worksheet: Examples of Terminology

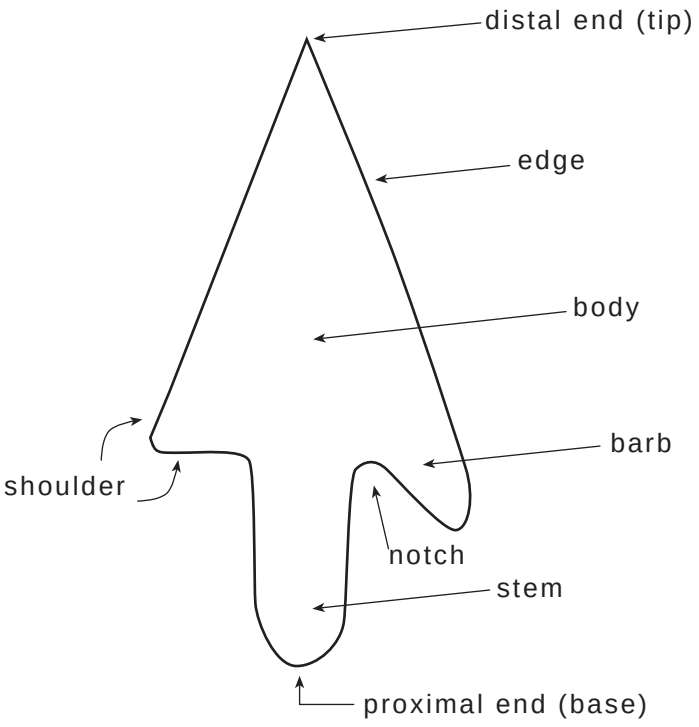
BOTTLE TERMINOLOGY



PENCIL TERMINOLOGY

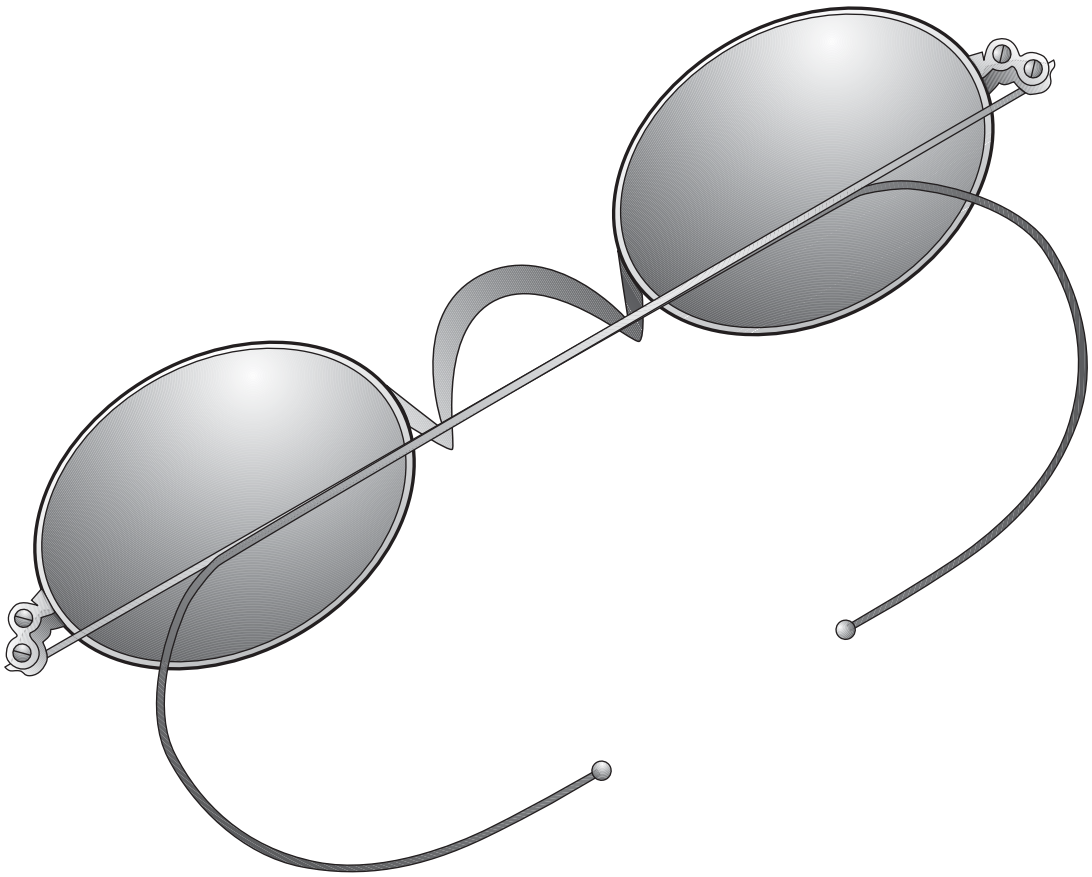


ARROWPOINT TERMINOLOGY



Worksheet: Name These Parts

Instructions: Study the examples of artifact terminology on the Examples sheet. Then, study the artifact below and label the basic parts of the artifact, using arrows to connect the names to the parts. Use the dictionary or other reference books if necessary.



Discussion: Are there parts of your artifact for which you cannot find a "name"? In class discussion, ask other students if they know the word for the unidentified part. If not, can anyone think of a good descriptive word or term?

As a culture's technology becomes more complex, do you think terminology becomes more complicated? How many people, do you suppose, can name every part of an automobile? A jet plane? A space station? A computer?

Do you think the need for terminology might explain, in part, the acquisition of new words in languages? If we have to use too many words to describe a part of something, wouldn't it be simpler to come up with a new word (or a new meaning for an older word) for that part? Mouse, for example.

Strategies for Teaching Archeology

By Patricia M. Wheat. Reprinted from *Insight*, Newsletter of the Education Services, Texas State Historical Association, Vol. 4, p. 6 (Fall 1990).

Introduction

There are many ways to use archeology as a teaching tool, but perhaps the most interesting to students are those that are activity oriented. The two activities that follow will be better understood by students if some preparation is undertaken regarding the concepts and terminology of archeology.

Activity I—Material Culture

Rationale: By assessing a list of personal possessions, students will be able to learn something about the person who used those objects.

Objective: To introduce the idea **of material culture** and its importance in telling archeologists about past peoples. Material culture includes any object or structure that is made or altered by humans.

Age Level: Grades 4 through 7.

Special Materials: One 3 x 5 card for each student; pencils

Time Required: 5 to 10 minutes for background discussion; 30 to 40 minutes to complete the activity.

Instructions: To introduce the idea of *material culture* and its importance in telling archeologists about the ways people lived:

1. Have each student list on a 3 x 5 index card ten personal possessions that would survive a fire (do not have names on the cards). Collect these cards.

2. Redistribute the cards at random, making sure that no student receives his or her own card.

3. Have the students write a description of the person whose list they received. Mention such things as age of the person, his or her likes and dislikes, and activities in which he or she participates.

4. Students should then use their description as the basis for a classroom discussion of the kinds of things you can learn about a person from material remains—and the kinds of things you cannot learn.

Activity II—Archeological Techniques

Rationale: By collecting and assessing modern trash, students can make deductions about the activities that take place in the area from which the artifacts came.

Objective: To introduce the concept of archeological techniques (especially site description and artifact analysis) as a means of learning about how a site was used.

Age Level: Grades 4 through 7.

Special Materials: plastic or paper bags for artifacts

Time Required: 15 to 20 minutes for background discussion and instructions; 20 to 30 minutes for survey and collection. One additional classroom period for analysis and discussion.

Instructions: Get students involved in the techniques of archeology through the study of modern trash:

1. Divide the students into teams of 6 to 8 students. Each team is secretly assigned a team number and an area of the school or grounds. They should survey that area and come back with (a) a collection of artifacts picked up on top of the ground, and (b) a written description of the physical characteristics of the area surveyed (but *not* the name, such as football field). The team's "secret" number should be on each collection and written description.

2. Teams exchange artifact lots and site descriptions. Each group should analyze the materials and description it received and try to interpret them, listing (a) kinds of behavior or activities that took place in the area reported, (b) functional name or description of the area, and (c) how long ago the described behavior or activities happened. The analysis should be headed "Analysis of Site No. [the number is the secret team no.]."

3. Return the analysis to the original team. Ask a team member to report, in a class discussion, on the accuracy of the analysis. Discuss what can be learned and what cannot be learned about the area from the "evidence" that each team collected.

Tool Kits and Cultural Differences

Rationale
By assessing one group of artifacts and looking for parallels in other cultures students learn one of the basic concepts of archeology: that artifacts can tell us how prehistoric peoples satisfied their basic needs.

Objective
To understand how artifacts serve as clues to past cultures; to understand the difference between what is universally human and what is cultural.

Age Level
Grades 4 through 7.

Special Materials
Copies of worksheet.

Time Required
15 to 20 minutes for reading or discussing background; 30 to 40 minutes for activity and follow-up discussion.

Procedures
Students should read (or the teacher should read and discuss with them) the background section below. The exercise may be done individually or in small groups of 2 to 4 students. Upon completion of the exercise, discuss with the students the questions at the bottom of the activity handout sheet. Note: this activity can stand alone or it can be employed as follow-up to reeinforce the concepts presented in the other cultural universals activity ("The ABCs of Culture) provided in this unit.

Background
This activity is based on information presented in Part I and/or assumes general knowledge of the Late Prehistoric period and pioneer settlers in Texas. Additional background information is provided below.

Basic needs that must be satisfied are universally human. How needs are satisfied (including the methods and the tools that are used) are cultural. As cultures evolved different ways to meet their needs, those cultures became distinctly different. The rich cultural diversity in the world today is a result of all the different ways that people have found to meet their basic needs.

Archeology, as a branch of anthropology, makes the basic assumption that past peoples had the same basic needs as people living today. To find out how people met those needs, archeologists study sites and artifacts.

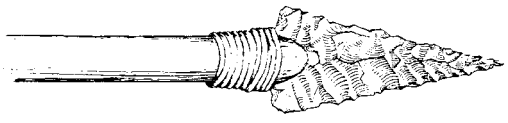
Single artifacts usually do not reveal much about cultural differences. For example, an arrowpoint may mean that people used the point for hunting with a bow and arrow. So, how does the archeologist know that different cultural groups made arrowpoints and met their basic needs in different ways?

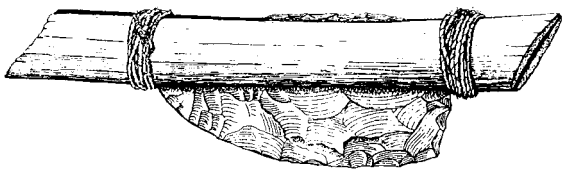
One way to begin to see cultural differences reflected in artifacts is to look at "tool kits." Think of the kit as a group of tools that are used together for a specific function. A tool kit for hunting and butchering might include these stone tools:

arrowpoints
scrapers
knives
choppers
hammer stones

Archeologists also look at the "style" or technology of artifacts as clues to cultural differences. For example, many styles of arrowpoints were made by different cultural groups. The archeological study of technological and cultural differences is very complex. It involves not only artifacts, but other material remains and the sites themselves.

Nevertheless, we can see some of the differences between major cultural groups through time by looking at the tool kits they used to meet basic needs. Based on what you already know about past and present cultures, you can infer a lot about the differences in their "tool kits."





Worksheet: Tool Kits and Culture

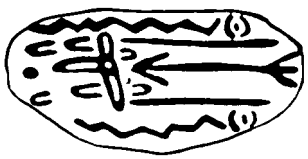
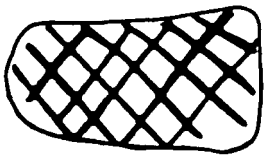
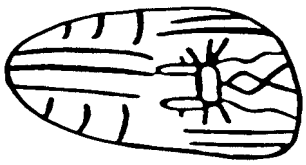
Instructions: Look carefully at the list of "prehistoric" tool kits in the first column. For the pioneer settlers, list tools that meet the same basic needs. For some tools the difference may be in the material (as a hoe blade of bone or metal). For this exercise you may list things that would not survive in an archeological site.

Late Prehistoric Villagers	Pioneer Settlers
Food Acquisition	
Hunting and butchering:	
bow and arrow	
stone chopper	
hammer stone	
stone knife	
stone scraper	
Cultivation of crops:	
hoe made of bone	
digging stick	
ceramic water jar	
Gathering plant foods:	
basket	
bag made of woven fibers from wild plants	
stone knife	
Water Storage in House	
pottery water jar	
Making Clothing	
bone or stone awl	
stone graver (or punch)	
Construction of shelter	
stone ax	
hammer stone	

Discussion

Discuss some of the things that are implied by the tool kits, as well as some of the things that are left out. For example, what materials did people use for making clothing? Most prehistoric families probably built their own shelters, but they could get help from other members of their group. Pioneers who settled in communities also got help from their neighbors. How many people do you know in Texas today who build their own houses? Do you know about people anywhere who do so? Is it easier to find similar items for the Late Prehistoric villagers and the pioneers than it would be for the prehistoric villagers and modern city dwellers? Why? What affect did the introduction of machinery and modern power sources have on the tools we use to meet our basic needs?

Painted Pebbles

Rationale: Participants create replicas of painted pebbles as a means of understanding how and why prehistoric peoples may have created paintings or etchings on rock.

Objective: To understand the concepts of design and function; to deduce from the activity how symbolism might be used in a culture with no written language; to deduce how symbolism may relate to art in general; to deduce how symbolism may relate to superstition, magic, ceremonies, games, or group identity.

Age Level: Grades 4 through 7.

Special Materials

- Sharpies (fine-point permanent markers), as sub stitute for black and red paints
- Pebbles ("skipping" shape)
- Copies of worksheets
- Optional: Students may mix and use dry paints and use frayed twigs as paint brushes.

Time Required: Minimum: Allow about 15 minutes for discussion of background information. Allow 30 to 40 minutes for completion of activity (omit the team section of the activity).

Alternative. Make copies of the background section for each student. Devote one classroom period to reading and discussion of rock art. Devote one classroom period to replication of painted pebbles, team analysis activity, and discussion.

Preparation and Procedures:

1. Instruct each student to bring to class one or two pebbles, of the type used for "skipping" across water. Smooth, fairly thin and flat, oval or elongated pebbles, about 3 inches long, are best for use in this exercise. If you live in an area where pebbles are rare, students may cut their "pebbles" from cardboard or heavy paper.

2. Discuss the background section or have the students read the background section and then discuss it. A discussion of the probable functions of rock art is essential to this activity.

3. Provide materials and a copy of the sample painted pebbles to each student.

4. Instruct the students to decide which function(s) they want their pebbles to serve. Each student should paint one or two pebbles, depending on the time allocated. The student should paint the pebble so that it will "serve" the pre-selected function; student then completes the "Student" section of the worksheet.

5. (For extended activity) Instruct students not to discuss their work. Assign students unique numbers for each pebble. Instruct them to write the number, very small, in pencil on their pebble(s). Divide students into an even number of teams of "archeologists," with 2 to 4 students in each team. Have the teams exchange pebbles. Each team then analyzes the pebbles, completing the "Team" section of the worksheet. The same teams then exchange the Student sections of their worksheets. Each team will then evaluate how close they were to determining the chosen function of the pebbles they analyzed.

6. Discuss why students chose certain functions and how close the teams came to correct "analysis" of the pebbles. Discuss the meaning of the word **symbol.** How do clubs, businesses, or sports teams use designs as symbols of group identify? Would it be easier to analyze the function of a tool than it is to analyze the function of a symbolic object? Why? Is there any difference between personal magic and superstition? Does the student's description of use help explain what the pebble symbolizes? Ask the teams to discuss their choices of their favorite descriptions of how the pebbles might be used.

7. Display the pebbles in the classroom or school library during Archeology Awareness Month. Make cards for each pebble in the display, explaining the decorative techniques and functions of the pebbles. Describe the ways in which the pebbles might be used.

(Activity continued on next page)

Background for Painted Pebbles

Figures and designs painted on, or etched into, stone by prehistoric peoples have been found on the walls of caves and rockshelters around the world. These works are called **rock art.** The painted figures are called **pictographs.** The etched figures are called **petroglyphs.**

One of the most famous rock art sites in the world is a cave near Lascaux, France. The figures were painted about 15,000 B.C. Archeologists believe that the animal figures have a **symbolic** meaning that may be related to hunting magic.

Rock art in Australia may be even older (about 20,000 B.C.). The traditional culture of the **Aborigines** of Australia survived late into historic times. The study of their rock art is very important in helping us understand all prehistoric rock art.

Rock art is found all across Texas, but the best-known sites are located in the canyons of the Rio Grande. There, large shelter caves contain some of the finest examples of rock art in the United States. These sites date from as early as the Archaic period (beginning about 6000 B.C.) to as late as the historic period (after A.D. 1500). They are our best clues to the ceremonies and myths of prehistoric Texans.

One of the most famous Archaic sites in Texas is Fate Bell Shelter, in Val Verde County. **Shaman** figures are shown in many of the paintings there. A shaman was a religious leader, or medicine man.

Prehistoric Texans also painted or etched designs on pebbles. These pebbles are a kind of "portable rock art." As people did for pictographs, the pebble painters used natural pigments, such as soot and red **ocher,** to make paint.

Designs

Painted pebbles usually have one of the following types of designs:

(a) **Anthropomorphic**: a human figure having animal features; for example, the body of a man with wings and the head of an eagle.

(b) **Figural:** any human or animal figure (or part of a figure) that is not anthropomorphic; for example, a human handprint, a mountain lion, a snake.

(b) **Geometric:** straight or curved lines, rectangles, circles, triangles.

(c) **Natural:** things from nature other than people or animals, such as plants; for example, a flower, a tree, a lightning bolt.

Functions

Think about these ways that painted pebbles might function:

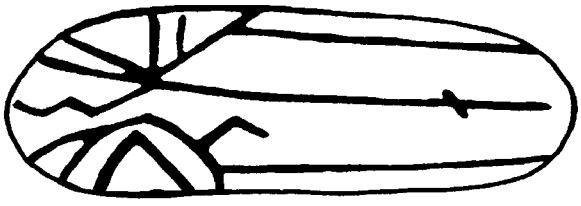
(a) **Ceremonial.** Example: during a dance or other ritual, participants place the pebbles in a special place (in a cave, on an altar, near the fire). This ceremony is one of hunting magic. Images of powerful medicine men, great hunters, and/or the animals to be hunted are painted on the pebbles.

(b) **Personal magic.** Example: I am a member of the Bear clan. I carry this pebble painted with the face of a Bear in my medicine bag, which contains "magic" or special objects known only to me.

(c) **Gaming.** Examples: A different design is painted on each face of the pebble; the pebble is flipped, like a coin, to decide who goes first in a game. Or, pebbles are painted with any kind of design; they are tossed from a distance into a shallow hole; the winner, who gets the most stones into the small hole, identifies his or her stones by their designs.

(d) **Decorative**. Example: I paint designs on these pebbles and then display them on a windowsill or in a frame on the wall. Their function is to be pretty.

From studying traditional cultures around the world, we can infer the possible functions of painted pebbles. The specific ways they were used are unknown. Archeology, with help from other sciences, may be better able to interpret this portable rock art in the future.



(Activity continued on next page)

Painted Pebbles: Student Worksheet

Instructions:

Review the drawings of prehistoric painted pebbles at the bottom of this page. These are examples of real prehistoric artifacts.

From the lists below, select a design type and a function for each pebble you paint. If you have been instructed to number your pebble(s), place the number for each in the blank beside each design and function type you have chosen. If you are painting only one pebble and not using numbers, place a check mark in the right blanks. Choose only 1 design type and 1 function for each pebble.

In the space for "Description of Use," write one or two sentences describing a specific use for your pebble(s). If your pebbles are numbered, write the number before each description.

Example: Choose "Figural" design and "Personal magic" function. Paint the pebble with the face of a bear, symbolizing your school's sports team. (You may plan either a "modern" or "prehistoric" use for your pebble.) Describe the use: "I plan to carry the pebble in my pocket as a good luck charm at all football games. This magic may help the Bears win."

Basic types of designs:

(a) **Anthropomorphic** _____

(b) **Figural** _____

(b) **Geometric** _____

(c) **Natural** _____

Basic functions:

(a) **Ceremonial** _____

(b) **Personal magic** _____

(c) **Gaming** _____

(d) **Decorative** _____

Description of Use:

_____

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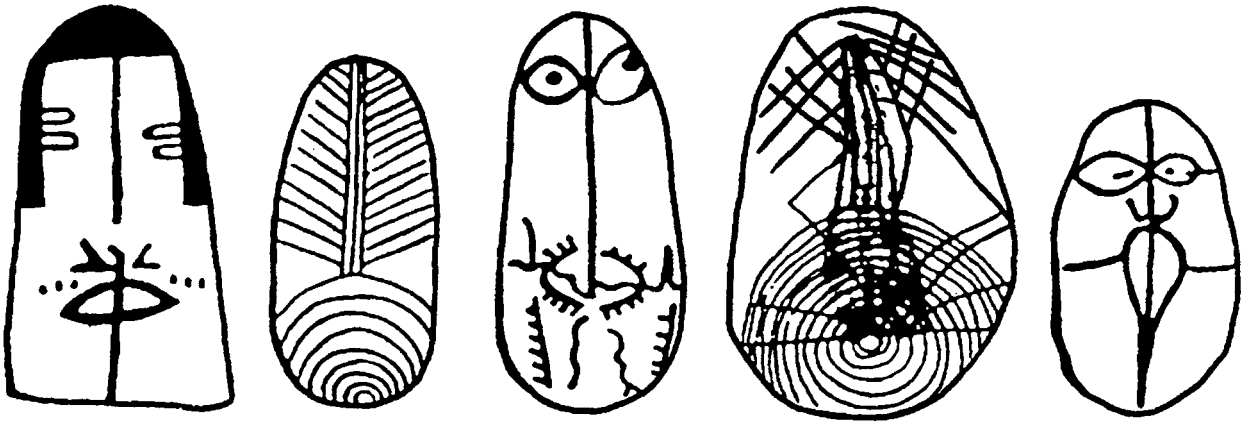


 To learn more about painted pebbles see "Painted Pebbles: Styles and Chronology," by Mark L. Parsons, in *Ancient Texans: Rock Art and Lifeways along the Lower Pecos,* by Harry J. Shafer with photographs by Jim Zintgraff (Texas Monthly Press, Austin, 1986).

Painted Pebbles: Team Analysis Worksheet

Instructions: List the assigned number of each pebble the team analyzes. Discuss each "artifact" and then write in the design type and function that your team believes the painter used for each. After you have done this, get the student's worksheet for each pebble. In the next column across, write the student's designated design type and function for the same numbered pebble. Count and report in the following space the number of pebbles your team analyzed "correctly": ________. Team name or number: ______________________.

Team Analysis		Student's Statement	
No.	**Analysis**	**No.**	**Analysis**
___	Design: ____________________	___	Design: ____________________
	Function: ____________________		Function: ____________________
___	Design: ____________________	___	Design: ____________________
	Function: ____________________		Function: ____________________
___	Design: ____________________	___	Design: ____________________
	Function: ____________________		Function: ____________________
___	Design: ____________________	___	Design: ____________________
	Function: ____________________		Function: ____________________
___	Design: ____________________	___	Design: ____________________
	Function: ____________________		Function: ____________________
___	Design: ____________________	___	Design: ____________________
	Function: ____________________		Function: ____________________
___	Design: ____________________	___	Design: ____________________
	Function: ____________________		Function: ____________________
___	Design: ____________________	___	Design: ____________________
	Function: ____________________		Function: ____________________

Use of Pebbles:

(The team should agree on the "description of use" that they like best; base the choice on imaginative content, agreement of use with design and function, and clear description. Give the number of the pebble chosen, and copy the description of the use below (or on back of this sheet). Be prepared to discuss in class the reasons for your choice.)

No. **Copy of description of use:**

_____

Archeo-ART

Adapted from a lesson plan prepared by KC Smith and Sine Murray, Museum of Florida History, Division of Historical Resources, Florida Department of State.

Rationale

This game allows students to become familiar with basic or advanced archeological terms. In a classroom setting, the activity can serve as a diagnostic instrument or as a review before evaluation.

Objectives

- to associate words and ideas with mental pictures
- to understand archeological terms
- to develop visual communication skills

Age Level

Grades 4 through 12

Special Materials

chalkboard and chalk
clock with second hand
3 by 5 cards
video or article on archeology (optional)

Time Required

Allow 15 minutes to prepare for this activity and 40 to 50 minutes to play the game.

Preparation

From the list below, select archeological terms appropriate for the age group. Write the individual terms on 3 by 5 cards.

Determine how to divide the group into two teams.

Obtain a video or article on archeology (optional).

Procedure

1. Have the class read an article or view a video on archeology.

2. Present the archeological terms to the class for study.

3. Divide the class into two teams. Determine which team will go first.

4. Team 1 selects an individual to draw a picture representing the first term. After a few seconds of study, the student begins drawing. Only 60 seconds are allowed for drawing the picture.

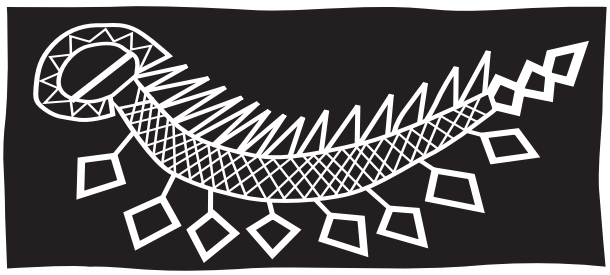
5. While the "artist" is drawing, the teammates guess which term the picture represents. If the team guesses correctly within the 60-second time frame, they receive one point. If Team 1 does not guess the correct answer, then Team 2 is allowed one guess. If Team 2 guesses correctly, they will receive two points. Play alternates between the two teams for an amount of time designated by the teacher.

6. Discuss the meanings of the terms as they relate to archeology.

Suggested Terms

If you use the optional video or article about archeology, you may wish to select artifact and site or feature terms from your source. If not, present the following terms to the class for study.

Tools	Artifacts	Site or Features
trowel	shell	hearth
shovel	beads	burial
camera	glass fragment	midden
compass	pot sherd	pueblo
scales	projectile point	shipwreck
brush	horse shoe	floor
dental pick	bottle	well
map	bricks	privy
screens	knife	rock carving
notebook	statue	rock fence
measuring tape	nails	animal pen
toothbrush	jewelry	kiln
microscope	awl	fort



CULTURAL EXCHANGE—

Cornucopia of Discovery

Adapted from a lesson plan prepared by KC Smith and Lisa Sharik, Museum of Florida History, Division of Historical Resources, Florida Department of State.

Rationale: Participants work with two lists of ingredients, creating familiar foods and discovering that many popular items eaten today are a combination of New World and Old World products.

Objectives: To distinguish between foods native to the New World and those introduced from the Old World.

Age Level: Grades 3 through 7.

Special Materials

Copies of handout
World map (optional)

Time Required: Allow 15 minutes to prepare for this activity and 30 to 40 minutes to complete it.

Background: The ingredients used to prepare foods that modern Americans eat come from a wide variety of sources, both indigenous (native) and introduced from abroad. Many of the crops grown in gardens today were not present in the Americas before European explorers and settlers began to introduce plants and foods from Europe, Africa, and the Orient. Oranges and other citrus fruits that are now grown all over the Americas were brought here by the explorers. It is also true that many crops grown for centuries in the Americas were introduced to Europeans as a result of transatlantic traffic to the east. The potato is a good example. This food native to the Americas became an integral part of many European diets—especially the Irish. Gradually, European newcomers and native residents began to share traditional food resources and recipes, sometimes adapting food dishes to suit accustomed tastes.

Procedure

1. Begin with a general discussion about food, such as the students' food preferences, how preferences vary globally and through time, and the role of food in culture. Ask students to list a few foods that were enjoyed by the Indians in Texas before the arrival of Europeans. Ask students to suggest foods that Spanish missionaries and settlers brought to Texas. Discuss how the foods eaten hundreds of years ago by these groups are different from those we eat today.

2. Distribute a copy of the worksheet to each student. Read the directions aloud and answer any questions about completing the activity. As participants are working, circulate and offer assistance.

3. When the worksheets are finished, ask several participants to read their ingredients for foods in List C. Explain that List A includes items that were native to the New World, and that items in List B originated in the Old World. Use the world map to point out the areas being discussed. Explain how Europeans brought new plant and animal species from their homelands to preserve and replicate the foods to which they were accustomed.

4. Lead participants in a discussion about the dietary and economic impacts of this global migration of plants and animals, referring to the worksheet as a source of information. People today could not enjoy many of their favorite foods without the ability to combine ingredients from both lists. Italians, for example, could not put tomato sauce on their pasta until tomatoes were brought from the New World. Ask students to suggest some other dishes that could be made by combining items from the lists. Discuss how some imports, such as citrus and peaches, have become major commercial crops in the South, and how at least one New World plant not listed on the worksheet—tobacco—has become the focus of modern social debate.

Resources for the Teacher

Crosby, Alfred W., Jr. 1972. *The Columbian Exchange: Biological and Cultural Consequences of 1492.* Contributions in American Studies No. 2. Greenwood Press, Westport, Conn.

Simons, Helen. 1992. "The Tex-Mex Menu." In *Hispanic Texas: A Historical Guide,* edited by Helen Simons and Cathryn A. Hoyt. University of Texas Press, Austin.

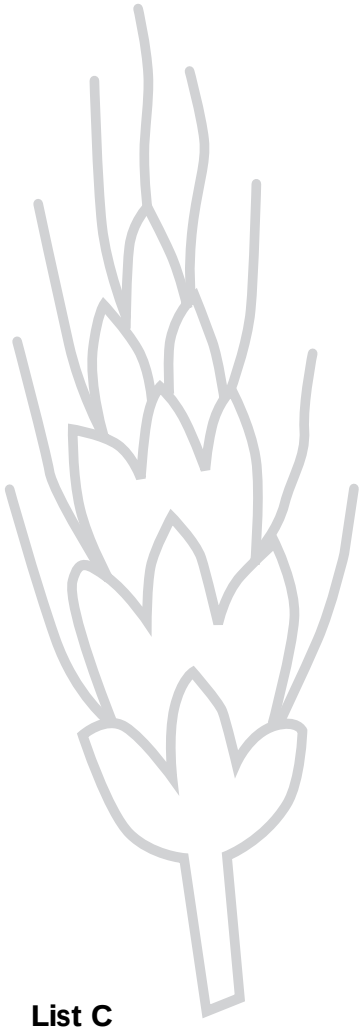
Sokolov, Raymond. 1989. "Before the Conquest." *Natural History,* August, pp. 76–79.

———. 1989. "Insects, Worms, and Other Tidbits." *Natural History,* September, pp. 84–87.

———. 1989. "The Well-Traveled Tomato." *Natural History,* June, pp. 84–88.

Cornucopia of Discovery—Handout

Lists A and B include a variety of plants and animals. List C presents some prepared foods that are popular among Americans today. Select an ingredient from List A and List B that is used in preparing each of the food dishes named in List C, and write the ingredients on the lines provided by the side of each food dish.



List A—New World Foods	List B—Old World Foods
corn	wheat
white potato	oats
sweet potato	rice
manioc	yam
tomato	cucumber
pumpkin	beet
squash	onion
avocado	olive
chili pepper	carrot
pole bean	radish
lima bean	lettuce
cocoa	banana
vanilla	citrus
pineapple	plum
persimmon	grape
guava	peach
mulberry	almond
sunflower seed	sugar cane
peanut	goat
turkey	pig
bison (American buffalo)	sheep
alligator	cow
bear	chicken

List C

pizza	_____	_____
burrito	_____	_____
pumpkin pie	_____	_____
potato salad	_____	_____
spaghetti and sauce	_____	_____
hamburger and fries	_____	_____
chocolate chip cookies	_____	_____

Can you think of any other favorite foods that require ingredients from both List A and List B? Name them below:

_____ _____ _____

_____ _____ _____

HISTORICAL CLUES ON MAPS—

Texas Indian Place-Names

Rationale: A study of Texas place-names shows that (1) contributions to American English from Native American languages are more common than most of us realize, and that (2) maps can be used as research documents.

Objective: To understand contributions to our language, especially in terms of place-names, made by Native American groups; to understand that place-names on maps can be archeological clues to where certain ethnic groups once lived.

Age Level: Grades 4 through 7.

Special Materials: (1) Copies of handout (on reverse of this page) for each student or for teams; (2) access to *Handbook of Texas* (optional).

Time Required: one classroom session for background discussion or reading; one or two classroom sessions for activity (depending on accessibility of research sources).

Procedures: Students should study and discuss the examples of Indian place-names provided on the reverse of this page. The activity/exercise should be done in small teams of 2 to 4 students. Upon completion of the exercise, conduct a classroom discussion of the final map resulting from the activity.

Background: Tracing names derived from Indian words, or associated with Indian groups or places, is not always easy. The Spanish explorers and missionaries, who were the first Europeans to enter into Texas, often adopted Texas Indian names for rivers and other natural features. However, the Spaniards translated the place-names into Spanish, and many of the Indian origins for place-names have been lost. The selection of place-names (on the reverse of this page) includes names derived from Indian words as well as names that are associated with Indians or their activities. Some of the place-names are "second hand"; that is, they got their names from other places that were originally derived from Indian words. For example, Navasota, a town in Grimes County, got its name from the Navasota River—probably called Nabatsoto by Indians and recorded as "Navasoto" by the Spaniards in 1727.

Such early place-names can be clues to where different groups of Native American, or other ethnic groups, once lived. Be aware that some recent place-names are not good clues to the historic locations of Texas Indians. For, example, a developer might name a subdivision "Comanche Creek Estates" even though no Comanches and no Comanche Creek are known ever to have existed in the area.

Activity: Divide the class into small teams and provide each team with a Texas highway map or county maps from the *Texas Almanac*. Assign each team a region (an outlined area on the map) and ask them to (1) highlight on their section of the map (or on their county maps) any place-names from our list, and (2) find and highlight all other place-names in their region that they believe are related to Texas Indians. The *Handbook of Texas* may be used as a reference for the origins of names. A time limit should be set for the activity that will allow time for follow-up discussion.

Next, ask the teams to participate in highlighting on one map of Texas all of the place-names located by the teams. Discuss any names that may not be Native American and that could not be found in a reference source; if everyone is uncertain about a name, discard it.

Finally, discuss the completed map in class; for example: Can regional differences be seen in the place-names? Where there is a river with an Indian name, is a county or town with the same name likely to be found. How might early maps be used by archeologists to locate archeological sites? If you were an archeologist looking for sites, what kinds of place-names would you choose as clues? Would it be more practical to survey both banks of a major river, or the banks of a local creek or spring—and why? Why are some of the places more likely to contain archeological sites than others? How do you think historical maps might help in finding possible site locations before an archeologists goes into the field to record sites? What are some other ethnic groups whose settlements might be traced through place-names? Do you think there any areas of Texas that have no Hispanic place names? Are there any places in your county that have ethnically derived names?

Extension: If your students are familiar with Spanish, Hispanic place-names also can be used for this activity.

Texas Indians and Texas Place-Names

Anadarko Creek—for the Anadarko Indians, a Caddoan group. Also known as Barnhardt Creek, this stream is in Rusk Co.

Anahuac—either from an Indian word meaning "high plain water," or from an Indian chief, Anahwa, or from an ancient Mexican Indian place name. The town is in Chambers Co.

Anaquitas Creek—the stream, in Duval Co. and Jim Wells Co., derives its name from the Anaqua Indians, a group first described by Cabeza de Vaca.

Angelina River—named for a Caddoan Indian woman whom the Spaniards called Angelina, "little angel." The county and the national forest derive their names from the river.

Apache Mountains—these mountains, in Culberson Co., are located in country that was the last stronghold of the Apache Indians in Texas.

Aransas Bay—from Indians who were called Aransuas by the Spaniards. Other place names in the area, including the name of the county, come from the name of the bay.

Ayish Bayou—the stream, in San Augustine Co., derives its name from the Ais, or Ayish, Indians, a Caddoan group.

Balaxy Creek—named for Biloxi, Mississippi, which in turn is named for the Biloxi Indians; the creek is in Angelina Co. A historic settlement, Biloxi, in Newton Co., was first settled by Indian emigrants, perhaps Biloxi Indians, from east of the Mississippi.

Bedias—for the Bidai Indians, a Caddoan group whose name meant "brushwood." The town is located in Grimes County. Bedias Creek, in Madison and other counties, also gets its name from this group.

Bois d'Arc Bayou—from the bois d'arc tree, so named by the French because the Indians favored the wood of this tree for manufacturing their bows. The bayou is in Grayson Co. and Fannin Co.

Bowles Creek—probably for Chief Bowles, a leader of the Cherokee Indians; two creeks bear this name, one in Cherokee Co. and one in Rusk Co.

Caddo Lake—named for the Caddo Indians, the lake is in Marion and Harrison counties. Other place names derived from these Indians are Caddo Creek (four creeks, mostly in East Texas) Caddo Mills (Hunt Co.), and Caddo Peak (Johnson Co.).

Cherokee County—from the Cherokee Indians who, under Chief Bowles, lived in East Texas in the early 19th century. Other places to which they gave their name include Cherokee Bayou (Rusk Co.) and Cherokee Creek (one in Briscoe Co., one in San Saba Co.).

Comanche County—for one of the most famous tribes of Plains Indians, the Comanches. Other place names include Comanche Creek (8 different streams), Comanche Peak (one in El Paso Co. and one in Hood Co.), and Comanche Springs (Pecos Co.)

Delaware Bend—from the Delaware Indians, who were closely associated with the Cherokees in East Texas. The town is in Cooke Co. Other place names probably derived from this group are the Delaware Mountains and Delaware Spring, in Culberson Co.

Nacogdoches County—from the Nacogdoche Indians, a Caddoan Group. The main town in the county also is named Nacogdoches.

Navasota River—probably called Nabatsoto by Indians. It was recorded as "Navasoto" by the Spaniards in 1727 and has had that name ever since. Navasota, a town in Grimes Co., gets its name from the river.

Seminole—from the Seminole Indians, who were associated with the Cherokees in East Texas and who later settled at Eagle Pass in the 1870s. The town of Seminole, Seminole Canyon, and Seminole Draw are in Gaines Co. Another Seminole Canyon is in Terrell Co.

Shawnee Creek—from the Shawnee Indians; a group of these Indians settled on the upper Sabine River in the 1820s. There are at least 3 creeks with this name, in Angelina, Red River, and Rusk Cos.

Tehuacana—from the Tawakoni Indians, who lived in this area until the 1840s. The town, the Tehuacana Hills, and Tehuacana Creek are in Limestone Co.

Waco—the city, in McLennan Co., is named for the Waco Indians, a Wichita group that entered Texas in the early 18th century and occupied this region in the 19th century.

Wichita County—from the Wichita Indians, who once lived in this area. Other place names derived from this group are Wichita Falls and the Wichita River.

Compiled by Archeology Division staff. Source: *Handbook of Texas*. (Texas State Historical Association, Austin. 1952)

ARTIFACT ASSOCIATION—

Who Camped in the Lower Pecos?

Rationale: By assessing a group of artifacts associated with hearths (a common archeological feature), students learn one of the basic concepts of archeological analysis: association.

Objective: To test understanding of material gained from *The Indian Years*; to understand how associated artifacts can help in interpreting archeological sites; to understand the importance of preserving archeological sites intact.

Age Level: Grades 4 through 7.

Special Materials: Copies of handout (on reverse of this page).

Time Required: 15 to 20 minutes for background discussion or reading; 20 to 30 minutes to complete worksheet and for follow-up discussion.

Procedures: Students should read (or have read to them) and discuss the background section. The worksheet may be completed individually or in teams of 2 students. Upon completion of the exercise, discuss with the students the questions at the bottom of the activity handout sheet.

Background

In this purely imaginary scenario, an archeological team has surveyed an isolated part of the Lower Pecos region. In three areas they found exposed burned-rock features (hearths). They recorded the hearths and noted that they might be evidence of significant campsites. Their inference was based on knowledge of other sites in the region and their observations at these sites.

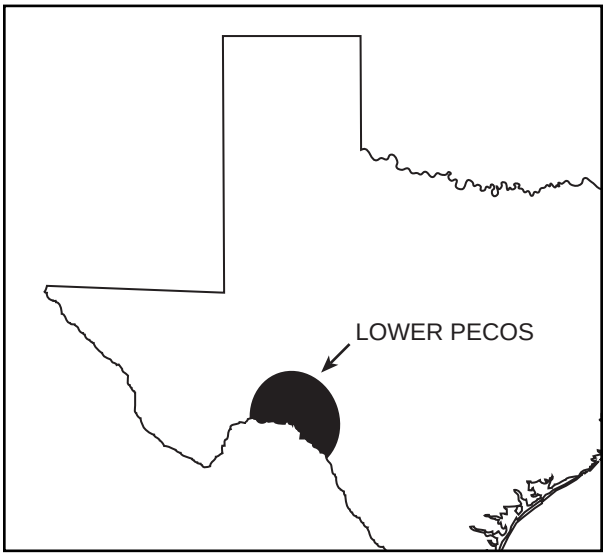
One of the sites was located at the base of an overhanging bluff. It was named the Red Bluff Site. The "overhang" provided some protection for the site. On the rock wall of the bluff there was one small area of rock art. The archeologists were very interested in this site because the figures in the rock art were different from those at other known sites in this region.

One of the sites was located on a terrace of the Rio Grande, above the flood level. The site was named for the landowner, Hector Madrid. Based on the extent of exposed flint flakes and two small ceramic fragments, the archeologists believed the hearth might be part of a significant campsite.

The third site was located at a small spring that had not been recorded on the topographic map. This site was named the Lost Spring site. Because water is scarce in this region, springs are places where sites are nearly always found. A piece of copper wire was found partially exposed at the site. It was possible that this wire had recently been left on the surface of the site. A few pieces of modern trash (rusted tin cans and a rifle cartridge) were observed elsewhere near the spring.

The archeologists tested the sites to determine if excavation was warranted. (To test a site archeologists scrape the surface with shovels or excavate one or more units to find out if cultural remains are present below the surface of the ground.) The tests showed that one of the sites was badly disturbed. Pothunters had dug into the hearth and mixed the buried strata and surface artifacts. There was no evidence of deeper, intact remains. One of the sites contained evidence of Spanish exploration in this remote area. The other site was related to historic Plains Indians (probably Comanches).

The archeologists intend to return and fully investigate the two undisturbed sites. Both of these sites are rare types in this region.



Worksheet: Identify the Lower-Pecos Sites

Instructions: Below the three sites are identified only as A, B, and C. Assume that the artifacts or other remains were all found below the surface, in Level 1 of each site. Study the artifacts (some of the artifact names will be new to you, but not the basic artifact types) to determine which period each site is from; write the period (or identify the site as disturbed) in the blank under each site; then answer the questions below.

Site A	**Site B**	**Site C**
Perdiz arrowpoint	Val Verde dart point	metal arrowpoint
ceramic fragment	Langtry dart point	glass "seed" bead
flint flakes	etched pebble	copper bracelet
hammer stone	hammer stone	metal knife blade
mano	flint flakes	elk tooth pendant
stone knife	stone scraper	abalone shell pendant
bone awl	charcoal fragments	shell hair ornament
charcoal fragments	Perdiz arrowpoint	"D" ring from a saddle
glass bead	glass bottle base	rifle cartridge
_____	_____	_____

Which site do you think is the Red Bluff site? _____

Which site do you think is the Hector Madrid site? _____

Which site do you think is the Lost Spring site? _____

What are the best clues in Site A? _____

What are the best clues in Site B? _____

What are the best clues in Site C? _____

Further discussion:

Explain your choice of the artifacts that you listed as "best" clues for each site.

Which site is disturbed? Which periods of prehistory are represented in this site? What kind of information about prehistory did we lose because the site had been dug by collectors?

Historic Native American sites are rare. They are so recent that they have not had time to be buried by sediment, and many of the sites have disappeared. Since the artifacts were nearly always on the ground surface, what do you think happened to them?

Val Verde dart points have been found in sites that date to about 2500 to 1000 B.C. If the only one ever found came from this site, would scientists know when the Val Verde point was used? Why can a site not be dated if the contents are mixed by uncontrolled digging?

Which site would you like to investigate further? Why?

ARTIFACT INTERPRETATION—

Coins as Cultural Clues

Adapted from a lesson plan provided by Leonora Isakk, Hollis, NH, that appeared in *Archaeology and Public Education* 5 (2), December 1994 (Society for American Archaeology, Public Education Committee, Washington, D.C.).

Rationale: This simple yet intriguing exercise demonstrates the amount of information that the study of a single artifact can yield about a society.

Objectives/Skills: Students will:

- assess the characteristics of a society based on analysis of a single coin
- make inferences, analyze details and features, examine assumptions, brainstorm, work cooperatively, formulate questions

Age Level: Grades 4 through 7.

Special Materials: one or two pennies for each group

Time Required: Allow 40 minutes to prepare for this activity and 40 minutes to complete it.

Background

Among the hundreds, and often thousands, of artifacts that an archeologist finds at a site, sometimes a single object will provide a surprising amount of detail about a society. A coin is an example because it has the potential to reveal information about leaders, values, technological accomplishments, language, political structure, and a numerical system in operation, as well as the date of manufacture of the coin.

Studying a United States penny, students can gather certain information about the American society, such as:

1. Americans have access to minerals, presumably through mining or trade;
2. American men wear or have worn facial hair;
3. Americans believe in a deity;
4. they construct open-air monumental architecture;
5. they have knowledge of the Latin language;
6. they have a numerical system;
7. they are organized into a system of affiliated states;
8. this object is not wearable.

The temptation may exist to make inferences from the coin based on actual or modern knowledge—for example, that Americans know how to mine or that they construct buildings of stone. Both facts are true, but does the information on a penny really prove them?

Archeologists often are faced with similar dilemmas, when a recovered object suggests that something may have occurred or existed, but further proof is needed. Armed with such circumstantial evidence, archeologists develop new questions and hypotheses to test as they proceed with their research. While they hope that certain proof will emerge, sometimes they must state their conclusions by noting that something "may have" or "probably" occurred.

Procedure

1. Divide students into groups of three or four. Distribute one or two pennies per group, and tell the groups to select one member to be responsible for recording the group's findings on paper.

2. Ask students to imagine that they are examining a single artifact, found alone, from an unknown society. Their task is to determine as many features as possible about the people who made the object.

3. When the work group time has elapsed, ask teams to present their conclusions and to describe the processes that they used to reach their decisions. Lead students in a discussion about the details that can be derived from artifacts and the problem of making assumptions based on modern knowledge and behavior. Discuss as well the cumulative process that allows archeologists to reach larger conclusions about a population of people.

Extensions

- Present this activity using old or foreign coins.
- Ask older students to develop a schema for artifact analysis and test it on other artifacts from contemporary society.

WORKSHEET: Example of Possible Schema for Analyzing Artifacts

Adapted from a lesson plan contributed by Lonna Sanderson, fourth-grade teacher, Graham Elementary School, Austin.

Characteristic of Society	Inference made	Reason for inference
Food		
Shelter		
Clothing		
Religion or beliefs		
Traditions		
Values		
Government		
Family structure		
Economics		
Technology		
Division of labor		
Transportation		
Communication		
Education		
Art, Music, Drama, and/or Literature		
Entertainment and/or celebrations		
Other:		
Other:		
Other:		
Other:		

THE READING-WRITING CONNECTION—

Everybody Needs . . .

by Nanette Fisher

Introduction

"Why are we doing archeology in English class?" asked a student. I replied, "My intent is to help you see the connection between real life and school experiences."

In this age of multiculturalism and emphasis on writing across the curriculum, I use archeology, a special interest of mine, as an integrated approach of study.

Here's a potential lesson that may help you share your special interest as I do.

Rationale

The reading of a fictional account can be related to real life experiences.

Objectives

- to develop writing skills
- to make the reading-writing connection
- to enable students to understand the interrelatedness of skills that are learned in different disciplines (e.g., archeology and English)

Age Level

Grades 4 through 12.

Special Materials

- copy(ies) of *Everybody Needs a Rock,* by Byrd Baylor
- display of archeological items (optional)

Time Required

This introductory lesson is suitable for any grade level and may take two or three days to complete. Time required will depend on whether the book is read aloud in class or assigned as an out-of-class reading assignment, and whether the writing is an in-class or out-of class assignment. At least two class periods will be needed for discussions before and after the writing assignment.

Preparation

Prior to the reading–writing connection, set up a display of rocks, replicas or photographs of prehistoric artifacts, and tools used by archeologists (optional).

Background

Information on the basic concepts of prehistory and archeology (as provided in the background section of this teachers unit) will assist the teacher in the preliminary discussion.

Reading–Writing Connection

1. Read *Everybody Needs a Rock,* by Byrd Baylor. The main character is a Native American who values the uniqueness of each rock.
2. Discuss the story and how rocks were used in prehistoric times, such as their use in heating food and in the making of weapons and tools.
3. Invite students to find their own unique rocks (*not* artifacts!).
4. Returning to the classroom, students can be assigned to write a story about their chosen rock. The teacher writes, too.
5. Students should share their stories.
6. Debrief by asking the students what they found most interesting about the rock they selected.
7. Display students' writings. Further revision may be undertaken at a later time.

CULTURAL UNIVERSALS—

The ABC's of Culture

by Lonna Sanderson, fourth-grade teacher, Graham Elementary School, Austin.

Rationale
By assessing a coin or paper money, students learn how facts about a culture can be deduced from the study of artifacts.

Objective
To understand the concept of cultural universals.

Age Level
Grades 4 through 7.

Special Materials
(1) copy of *The Way to Start a Day,* by Byrd Baylor; (2) copies of handout (on reverse of this page)

Time Required
Sufficient time (to be determined by teacher) for preliminary reading of *The Way To Start a Day.* Activity time: 15 to 20 minutes for background discussion or reading and 30 to 40 minutes for each part of the activity and follow-up discussion.

Background

Begin your classroom study of cultural universals by reading to your students *The Way To Start a Day,* by Byrd Baylor (Macmillan Childrens Book Group, New York, 1978), which is about the different ways in which people greet the day.

Activity, Part I:

Cultural universals are elements of culture that meet the needs of people and are found in most cultures. Ask your students to list the cultures mentioned in the story and the different ways of greeting the day. Write this list on chart paper, on the chalkboard, or on a transparency. The list may be organized into two categories: (1) ways in which ancient cultures greeted the day, and (2) ways in which modern cultures greet the day. Discuss the concept of "sun worship." Lead students to the conclusion that the sun has been important to all cultures throughout time and throughout the world.

Ask the students to think of other ways in which cultures are similar. List these on a chart and title the chart "Cultural Universals." Examples of cultural universals students may mention are these:

Food, shelter, clothing (basic needs)
Religion or beliefs
Traditions
Values
Government or social structure
Family structure
Economics (trade, barter, monetary system)
Technology
Division of labor
Transportation
Communication
Education
Esthetics (art, music, drama, literature)
Entertainment or celebrations

Discussion:

1. Look at the list of ways to start a day that we made after we read *The Way To Start a Day.* Did every culture mentioned in the story greet the day in the same way? (No.)

2. Do you think the cultural universals we have listed are the same in all cultures? (No.) Although all cultures have these cultural elements or needs, the ways in which these needs are met differ.

Activity, Part II:

Analysis of paper money or a coin can be used to infer cultural universals from an artifact. Divide students into groups and give each group a piece of money from a foreign country. Ask the students to assume that they know nothing about the "artifacts" given to them. Ask the students to examine the artifacts and determine as much as they can about the culture that produced these artifacts. The students should use the worksheet (on reverse of this page) to list the cultural universals that can be determined from the artifacts.

Worksheet: The  's of Culture

Cultural Universal	Inference made	Reason for inference
Food		
Shelter		
Clothing		
Religion or beliefs		
Traditions		
Values		
Government		
Family structure		
Economics		
Technology		
Division of labor		
Transportation		
Communication		
Education		
Esthetics Art		
Music		
Drama		
Literature		
Entertainment and/or celebrations		

SITE SURVEY AND ASSESSMENT—

The Buffalo Soldiers Site

Rationale

By assessing a group of artifacts students learn one of the techniques (preliminary assessment) that archeologists use in recording sites.

Objective

To understand how artifacts can help in making a preliminary judgment about site significance; to understand the value of the "preliminary assessment" technique in evaluating data.

Age Level

Grades 4 through 7.

Special Materials

Copies of handout (on reverse of this page)

Time Required

15 to 20 minutes for background discussion or reading; 30 to 40 minutes for activity and follow-up discussion.

Procedures

Students should read (or have read to them) the background section. The exercise may be done individually or in small teams of 2 to 4 students. After completing the exercise, discuss with the students the questions at the end of the handout sheet.

Background

In the late nineteenth century the U.S. military was trying to displace Apaches from far western Texas. Companies from the Ninth and Tenth Cavalries were assigned to this duty. The African Americans who served in these cavalry regiments were known as Buffalo soldiers.

The Tenth Cavalry was assigned to constantly patrol the Rio Grande, mountain passes, and key waterholes from Fort Davis to El Paso.

The Buffalo soldiers were very important to the opening of western Texas for settlement. They served at most of the frontier forts and are famous for their bravery, loyalty, and skill as soldiers. They also guarded stage stops and mail routes, making communication and transportation possible. However, as able as they were, they did not always win their battles.

On October 28, 1880, companies B and K of the Tenth Cavalry engaged in a battle with the Apaches. The Buffalo soldiers built a **redoubt** (a defensive barrier made by forming a semi-circle of stacked stones) on top of a ridge overlooking the Rio Grande in Hudspeth County. This stone wall that they built to help defend their position did not succeed. The skirmish resulted in the deaths of seven soldiers and the loss of several of their animals and equipment.

The remains of this site were recorded in 1976 as archeological site 41HZ227.

Imagine that you are an archeologist who wants to record and study sites related to the Buffalo soldiers. You are surveying sites in Hudspeth County and want to assess each site to identify the ones that related to the Buffalo soldiers.

During your survey, you find two sites that contain tumbled-down stone features. A preliminary assessment of artifacts from the ground surface around the walls tells you that one may be a redoubt constructed by the Buffalo soldiers. The other is probably the remains of a stone wall or fence, perhaps at an early ranch. There are only a few artifacts on the ground surface at each site, and some of them could have been used at either site. But you are lucky: a few of the artifacts are definite clues for identifying the Buffalo soldiers site, and you are able to choose the right site for further study.

This buffalo appears at the top of the military emblem of the Tenth Regiment, United States Cavalry.

Worksheet: Identify the Buffalo Soldier Site

Instructions: Only a few artifacts were found on the ground surface at each of our sites. The archeologist made a preliminary assessment of the artifacts. The artifacts were good clues that one of the sites is a military site—and probably a Buffalo soldier site. From a "preliminary assessment" of the list of artifacts for sites A and B, decide which is the Buffalo soldier's redoubt and which is probably a ranch corral. Circle the artifacts on each list that you think are definite clues.

Stone Wall Site A

tin can

horseshoe

enamelled-tin cup fragment

horseshoe nails

pistol cartridge cases

rifle cartridge cases

mess kit

metal button

small brass letter "K"

Stone Wall Site B

tin can

horseshoe

ceramic cup fragment

horseshoe nails

branding iron fragment

rifle cartridge cases

enamelled-tin coffee pot lid

metal hinge

snuff bottle

Which site do you think is the Buffalo soldier site? _____

Further discussion:

What are the diagnostic clues in Site A? _____

What is the diagnostic clue in Site B? _____

Why are artifacts related to horses so common in nineteenth-century sites?

For further study of which of these sites would you choose records at Fort Davis?

If a collector had already picked up the best clues from each site, would your "preliminary assessment" be more difficult? What could you tell about the sites if all of the artifacts had been picked up by collectors?

INTERPRETING HISTORIC SITES—

A Panhandle Dugout

Rationale

By sorting artifacts in categories, students learn one of the techniques that archeologists use in determining not just what artifacts are, but what they tell about a site.

Objective

To understand how artifacts can be used to identify and date a site, to use analytical skills, and to learn how categorizing information can help us understand what the data mean.

Age Level

Grades 4 through 7.

Time Required

15 to 20 minutes for background discussion or reading; 30 to 40 minutes for completion of exercise and follow-up discussion.

Procedures

Students should read (or have read to them) the background section. The exercise may be done individually or in small groups of 4 to 5 students. Upon completion of the exercise, discuss with the students what the artifacts say about who lived at the site and when. Why did they categorize the artifacts as they did? What do those groups of artifacts tell us about the site and its inhabitants?

Background

A dugout is a simple structure that usually has only one room. The back of the structure is dug into a hill or a slope of land. The front of the structure is built of rock or logs—or even of sticks and mud, like a south Texas *jacal.* The building material depends on what is available in the area. Dugouts were usually built in areas where logs were not available for building cabins.

Because historic dugouts are so much alike, they are good examples of how to interpret a historic site. Dugouts in the Texas Panhandle, for example, were used by at least four different groups at different times.

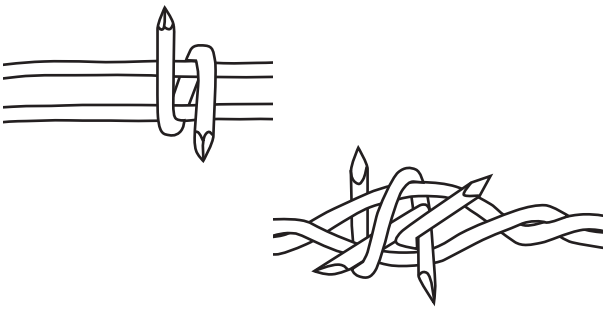
(1) ***Comancheros*** were Indian traders. They began their trade on the southern plains after 1786. The Spanish governor of New Mexico gave permission for trade after he signed a treaty with the Comanches. Comanchero trade was at its peak in the1860s and early 1870s, when guns and ammunition were added to their stock of trade goods. And the Comancheros built dugouts at some of their favorite trading spots.

(2) ***Pastores*** were sheepherders from New Mexico. They came to the Panhandle in the mid-1870s, when the Plains Indians were finally being driven out. The sheepherders built settlements, but the herders spent many months herding their flocks on long treks from pasture to pasture. And the sheepherders built dugouts at some of their camps.

(3) ***Cowboys*** came to the Panhandle in the mid-1880s when the cattlemen arrived. The ranchers claimed the plains as their range and forced out the *pastores.* These early ranches were huge, and the cowboys camped on the range. They built dugouts at some of their line camps.

(4) ***Farmers*** followed the railroads into the Panhandle in the 1880s. These early settlers often built dugouts as their first homes.

So, when an archeologist finds a dugout, artifacts are the best clues to the people who once occupied the site.



Antique barb wire, like these and the one at the top of the page, is a common artifact at rural sites in Texas. The one at the top of the page is called "spur rowel" and resembles the rowel on the spurs worn by cowboys. This barb wire was adapted from *Antique Barb Wire Collecting,* by Bryan Wolf (privately published, Crystal Beach, Texas, 1969).

Worksheet: Artifacts from a Panhandle Dugout

Instructions: On the left is a list of artifacts that archeologists recovered from a dugout in the Texas Panhandle. Place each of the artifacts in one of the groups on the right. After sorting the artifacts, think about the discussion questions so you can join in a class discussion. Note: the bucket handles can go in two function categories.

Artifacts Listed by Material Type

Metal

buttons
bucket handles
frying pan handle
cartridge cases
rifle barrel
barb wire
toy gun barrel
hoe blade
plow blade

Ceramics

doll head, porcelain
plate fragments
churn lid

Glass

canning jar fragments
pepper sauce bottle
perfume bottle

Artifacts Listed by Function

Personal Items (clothing, toys, etc.)

_____
_____
_____
_____

Food Preparation and Serving

_____
_____
_____
_____

Hunting

_____
_____
_____
_____

Agriculture

_____
_____
_____
_____

Discussion:

Which list (the one by material type or the one by function) tells you most about the people who lived at the site? Why? Are both lists good clues to when the site was used? Do you think comancheros, pastores, cowboys, or farmers lived here? Which artifacts are the best clues to who lived at the site? Why?

PICTURES AS RECORDS—

Farm and Ranch Life

Adapted from, "Picture This: Using Photographs To Study the Past," by KC Smith (*Archaeology and Public Education* 6 (1), Winter 1995–96. Society for American Archaeology, Washington, D.C.)

Rationale

Students use photographs as a basis for discussion of farm and ranch artifacts and how archeologists use documentary sources.

Objective

To understand that photographs can be used as documentary sources; to understand the kinds of information that photographs can provide. Skills such as observation, deduction, inference, and comparison are employed.

Age Level

Grades 4 through 7.

Special Materials

(1) Copies of photographs (see Preparation, below);
(2) copies of handouts for activity.

Time Required

Allow one class period (about one hour) for discussion and preparation. One additional class period will be required for each activity part (Activity Part II is optional). Additional preparation time may be required for the teacher, depending on how the photographs are collected for Part 2.

Preparation

Activity Part I: The teacher should make copies of the photograph and handout provided with this activity (1 for each student). Read the background section in preparation for class discussion. The teacher may choose also to make copies of this section for the students to read as preparation for discussion.

Activity Part II:

1. Acquire Photographs. Choose one of the following options for acquiring similar photographs for the student teams:

(a) Several days before the activity is to take place, assign each student to collect one copy of a photograph of farm or ranch life from a magazine, newspaper, or other "disposable" sources. Instruct them to use a real life (not a movie or television) scene. They should search the source of their photograph for as much information about the photograph as possible: When and where was the photograph taken? Who are the people in the photograph and what are they doing? Instruct the students to write down (or photocopy) the information about the photograph on a separate piece of paper.

(b) The teacher may elect to assemble the copies of photographs in order to guarantee a useful selection. If this option is chosen, the teacher may decide to collect historic photographs, which will add depth to the exercise.

2. Student Teams. Plan to divide the class into teams of 2 students each. Make 2 copies of the handout worksheet for each team (1 for each student).

Background

Archeologists who study historic sites often use historical records to help them understand the site they are investigating. Both primary sources (unpublished documents such as censuses, deed records, and photographs) and secondary sources (published books and articles) are studied.

Secondary sources can be useful for understanding general historical background. For example, books and articles have been written about German settlement in Texas: when and why they came, how they traveled, when they arrived, and where they settled. However, histories are rarely written about the lives and activities of average people. When such histories are written, they commonly describe family history and special events. They are not likely to include detailed accounts of everyday tools, toys, ornaments, and household goods.

Primary sources such as census and deed records are very important. They can help the researcher (the archeologist or a historian who is assisting with a historic site study) find details about the people who lived at a site: What were their names? How many

(Activity continued on next page)

people in the family? How long did they live at the site? Diaries are really useful for more personal information, but the average farmer, rancher, or cowboy usually does not keep a detailed diary. Diaries that were kept did not always survive, because they were not placed in a library or archive.

Photographs are one kind of primary source that can help a lot in understanding historic sites. Sometimes the researcher is really lucky and finds photographs of the actual structures that once existed at the site and of the family who lived there. Sometimes the researcher can study photographs of similar sites and people from the same time period and area.

Photographs are especially useful when they show the everyday items that people used. For example, kerosene lamps, churns, plows, rifles, wagons, or early automobiles. These things can be clues to the economic status of the people. And they can help the archeologist understand remains that are found at the site.

Useful as photographs are, they must be carefully studied. When and for what purpose they were taken are important questions. The photographer had to decide what to include and what not to include in the scene. And the scene itself may be a special event. Do you think that a wedding scene is a good example of everyday life? Do people sometimes spend more on weddings than they can really afford? Does the automobile in front of the house belong to the farmer or to a visitor? Are we looking at the usual family supper or Sunday dinner for a visiting preacher? Are the cowboys branding the cattle from one ranch, or is this a scene from a cooperative roundup of all the cattle from several ranches?

How might another kind of visual record, representational paintings, be compared to photographs as resources for historical research. Hints: The photographer can decide which part of a scene to picture, but an artist can decide to include, leave out, or alter objects. Portrait painting generally could be afforded only by the upper class. Photography made recorded images available to almost everyone. So photographs gave us records of a larger "slice of life" than paintings did.

How might still another kind of visual record, the drawings in old advertisements and catalogues, be compared to photographs as resources for historical research? How could such sources be used to test the information in photographs? Hint: the 1901 *Sears Catalogue* is a goldmine for the identification and approximate dating of late 19th and early 20th century tools and household goods.

Procedure

1. Discussion. Devote one class period to a discussion of the background information for this activity. Topics that should be emphasized are:

(a) The difference between primary sources and secondary sources.

(b) How photographs might be used by archeologists and historians.

(c) How information from photographs can be tested against other historical sources.

2. Activity, Part 1. Give each student 1copy of the student worksheet and one copy of the photograph that everyone is going to use. Review the instructions and set a time for completion of Activity Part 1. The student's observations about the photograph are to be recorded on the handout.

3. Discussion: When the photograph has been analyzed, lead a discussion of the results. Are there any questions the students could not answer? Ask questions about details in the photograph and what the students thought about them. On what basis did they decide whether the photograph depicted a farm or a ranch scene?

4. Activity, Part 2. Before the activity begins, remind the students to bring their photographs and photograph information sheets. And remind them not to show them to other students. Give each student a copy of the team worksheet. Team mates should exchange the photographs they collected but should not exchange the information sheets that go with the photographs. Each student should work independently to analyze the photograph and complete a worksheet. When this task is completed, the students should then be told to exchange information sheets and use the information sheets as another source to verify their conclusions. Set a time for completion.

5. Discussion: Use the same discussion techniques as for the first part of the activity. If some questions could not be answered, discuss where a researcher might go for more information.

(Activity continued on next page)

Student Worksheet: Pictures as Records

Instructions

Photographs can be good records of people, their activities, and the things they use. However, when we study photographs, we need to ask certain questions:

• Are there clues in the photograph that may tell us why the photographer took this picture?

• Is this a small part of a larger scene, and could important information about the subject of the photograph be missing?

• Is this a photograph of a special event instead of an every day scene? Does that affect how I should interpret the photograph?

Activity for INDIVIDUAL STUDENTS

Examine the assigned photograph and answer as many of these questions as you can.

General Impressions:

1. Based on your first impression, is this a farm scene or a ranch scene?

_____

2. When was the photograph taken (time of day, time of year):

_____

3. What are the people doing:

_____

4. List the things you think you can tell about the people (remember, these are your impressions, not tested facts):

Age or age range: _____

Clothing (check one):

___ everyday clothes

___ work clothes

___ "Sunday best"

___ can't determine

Economic status (check one):

___ below average income

___ average income

___ above average income

___ can't determine

Relationship, if more than one person is shown (check one):

___ nuclear family (man, wife, children)

___ extended family (aunts, uncles, etc.)

___ co-workers

___ group of friends

___ can't determine

Finding the Artifacts:

List the items (and parts of items) in the photograph that you think would survive in an archeological site:

_____

_____

_____

_____

_____

_____

_____

_____

_____

___ See extra page (check here if you need to add a page of your own paper to continue your list; attach the page to this worksheet).

Think about it: Which was easier, giving your general impressions, or finding the artifacts? Why? Could some of the identified artifacts be found at either a farm or a ranch? Could some of the artifacts be found almost anywhere that people of this time lived and worked?

(Activity continued on next page)

Activity for TEAMS

Follow the same instructions as for Part 1 of this Activity. Examine the photograph given to you by your team mate and answer as many of the questions as you can.

General Impressions:

1. Based on your first impression, is this a farm scene or a ranch scene?

_____

2. When was the photograph taken (time of day, time of year):

_____

3. What are the people doing:

_____

4. List the things you think you can tell about the people in the photograph (remember, these are your impressions, not tested facts):

Age or age range: _____

Clothing (check one):

___ everyday clothes

___ work clothes

___ "Sunday best"

___ can't determine

Economic status (check one):

___ below average income

___ average income

___ above average income

___ can't determine

Relationship, if more than one person is shown (check one):

___ nuclear family (man, wife, children)

___ extended family (aunts, uncles, etc.)

___ co-workers

___ group of friends

___ can't determine

Finding the Artifacts:

List the items (and parts of items) in the photograph that you think would survive in an archeological site:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

___ See extra page (check here if you need to add a page of your own paper to continue your list; attach the page to this worksheet).

Test your conclusions against another source: Ask your team mate for more information about the photograph. Use the information to change or complete your answers. List any other important clues you got from your "other source":

_____

_____

_____

_____

_____

_____

Think about it: How did using another source (the information sheets) make it easier to understand the person (or people) in the photograph you studied? How did using the information sheets make it easier to understand or identify the artifacts in the photograph? Could some of the identified artifacts be found at either a farm or a ranch? Could some of the artifacts be found almost anywhere that people of this time lived and worked?

PRESERVATION LAWS AND ETHICS—

Learning the Law

By Cathy MacDonald; reprinted, with slight adaptations, from *Archaeology and Public Education* 5(4), Fall 1995 (Society for American Archaeology, Public Education Committee, Washington, D.C.).

Overview: Teaching **historic preservation** legislation offers an exciting opportunity for interdisciplinary and multidisciplinary classroom experiences that help youths to develop a sense of personal responsibility for stewardship. The approach to this broad topic is presented as a unit plan rather than as the usual lesson idea.

Objectives

(1) *Affective.* Students will become aware:

- ➤ of the meaning of stewardship
- ➤ that the past is a shared heritage and that careful stewardship is needed to protect it
- ➤ that the government values this heritage and protects it through legislation

(2) *Cognitive.* Students will learn:

- ➤ historic preservation legislation applicable in their own area
- ➤ the structure of the legislative process and court system
- ➤ the jurisprudence of historic preservation legislation
- ➤ trial procedures

(3) *Evaluation.* Students will: write a research report; organize a presentation

Skills: Research, oral presentation, memorization, role play, cooperative learning, small group work, hypothesizing, formulating questions.

Age Level: Grades 7–12.

Special Materials: Additional background material (see options in Background section); determine other needs from individual lesson plans.

Background

1. Copies of the Antiquities Code of Texas and summaries of various federal antiquities laws are available from the Office of the State Archeologist, Texas Historical Commission, P.O. Box 12276, Austin, TX 78711-2276. Phone (512) 463-6090; fax 463-2530; e-mail: osa.thc.state.tx.us.

2. If more intensive background material is desired, obtain a copy of the Vol. 5, No. 4, issue of the *Archaeology and Public Education* newsletter. This issue contains several articles that will provide excellent background reading for this activity. Back issues of the newsletter are available for a small shipping and handling fee. Contact: Society for American Archaeology, 900 Second St., NE #12, Washington, D.C. 20002. Phone (202) 789-8200).

3. If you intend to include Lesson 5 (Mock Trial) and need help, the State Bar of Texas provides mock-trial workshops for teachers. Contact the Law-Related Education program: 1-800-204-2222, ext. 2120. For information on mock trial competitions, contact Judy Yarborough, Dallas Bar Association, 2101 Ross Ave., Dallas, TX 75202; phone (214) 220-7409).

4. For additional background resources, see the Resources list at the end of this activity.

UNIT LESSON PLANS

LESSON ONE

Topic: Stewardship and the need for historic preservation legislation

Strategy

1. If available, show *Silent Witness,* a National Park Service videotape that illustrates the impacts of archeological looting and the benefits of legislation protecting heritage sites. (Note: the Office of the State Archeologist has one loan copy, so reserve it well in advance.)

2. Lead a class discussion about the importance of preserving national and local monuments. Questions that you might pose include:

   a. How would our understanding of the past be changed if looters or treasure hunters had destroyed _____? (suggest an example, such as all of the Paleoindian sites in Texas, the Alamo, the shipwreck site of La Salle's *Belle;* the rock art sites at Hueco Tanks).

   b. What motivates treasure hunters and pothunters, and how can they be stopped?

   c. Why is it difficult to stop such activities even with legislation?

LESSON TWO

Topic: The evolution of historic preservation legislation.

Strategy

1. Present information on the development of historic preservation legislation.

2. Emphasize such topics as penalties for breaking the law; how, when, and why legislation was developed; levels of government responsible for various laws; and famous cases.

3. Ask students to speculate about historic bases for laws by examining other movements and events that raised consciousness about heritage preservation at the same time. For example, in Texas the discovery of 1554 shipwrecks by treasure hunters was the catalyst for passage of the Texas Antiquities Code.

LESSON THREE

Topic: Legislative and court structure.

Strategy

Depending on the length of the class, this may take two or three periods.

1. Divide the class into three groups and assign the following topics:
   a. the process of passing a law or bill in the political system.
   b. the sequence of hearings through various levels of courts, including local, state/provincial, and federal.
   c. the process and roles of the various personnel involved in a court trial.
2. Ask groups to research their topics and present their findings to the class. Encourage them to prepare handouts and to take notes during the other groups' presentations.

LESSON FOUR

Topic: Guest Speaker.

Strategy

1. Invite a guest speaker from the legal community experienced with cases involving historic preservation legislation.

2. Help students to prepare for a follow-up question-and-answer session with the speaker.

LESSON FIVE

Topic: Mock trial.

Strategy

This activity may take three or four classes. Students may have to rehearse their roles as witnesses, defendants, lawyers, judges, and jury members.

1. Obtain an actual case that was tried in court in preparation for students conducting a mock trail. See Background and Resources sections of this activity for additional information on mock trials.

2. Lead students in role playing the various parties involved in the case and preparing arguments for the defense and prosecution. If possible, involve a law instructor, a paralegal, or a lawyer.

LESSON SIX

Topic Application of preservation legislation—a reality-based research project

Strategy

In small groups or individually, instruct students to write a research report on an actual court case by examining the following questions and issues. A synopsis of the case should accompany the report.

a. How was the site discovered?
b. How and when did it come under historic preservation legislation?
c. Which pieces of legislation does it come under?
d. Has the site benefited from changes in legislation over the period of its preservation or restoration?
e. Which levels of government are involved?
f. What problems or difficulties were encountered in prosecuting or applying the legislation?
g. What changes should be made to legislation to better protect sites?

Resources

For discussions of numerous recent cases around the United States, see recent issues of *Common Ground* (and its predecessor, *Federal Archeology*); available from:

National Park Service
Archeology and Ethnography Program
PO Box 37127
Washington, D.C. 20013-7127

For an easy-to-use manual for the lay person on how to protect America's archeological artifacts and sites, see *Archeological Resource Protection*, by Sherry Hutt, E.W. Jones, M.E. McAllister (The Preservation Press, 1785 Massachusetts Avenue, N.W., Washington, D.C. 20036). Includes an overview of the vandalism and looting problem in the United States and a step-by-step discussion of how an archeological crime is investigated and prosecuted.

Other useful resources:

Messenger, Phyllis Mauch (ed.). 1990. *The Ethics of Collecting Cultural Property: Whose Culture? Whose Property?* University of New Mexico Press, Albuquerque.

Merryman, John H., and Albert E. Elsen. 1987. *Law, Ethics, and the Visual Arts.* University of Pennsylvania Press, Philadelphia.

Smith, George S., and John E. Ehrenhard (eds.). 1991. *Protecting the Past.* CRC Press, Boca Raton, Fla.

RIGHTS AND RESPONSIBILITIES—

To Dig or Not To Dig

This lesson plan was adapted from *Trash Treasures/Tesoros de basura* by Denise Aedan, Tim Aedan, and Christina Elnora Garza (Earth-Time Curriculum, 335 E. Encore, Hanford, CA 93230; (209) 583-7511) This adaptation appeared in *Archaeology and Public Education* 5(3), Summer 1995 (Society for American Archaeology, Public Education Committee, Washington, D.C.)

Overview: Evaluating the need for a **salvage archeology** project in a hypothetical scenario, students must balance such concerns as employment, cost effectiveness, and the value of local heritage.

Objectives/Skills: Students will

- prepare a role play, and discuss and communicate results
- conduct analysis, application, inferencing, and comparison

Age Level: Grades 7 through 12

Special Materials

- copies of the scenario
- list of townsfolk (roles)

Time Required: Allow one hour to prepare for this activity and two or three 90-minute periods to complete it.

Background: Any construction or development project that receives federal funding must comply with the National Historic Preservation Act, the Archeological Resources Protection Act, and often the National Environmental Protection Act. The common thread among these laws is a desire to preserve the past for public benefit. Most states also have laws to protect resources on their public lands.

Examination or excavation of archeological sites often is done through **contract archeology**—that is, by private firms contracted for a specific project. Excavation is time consuming, and it often is conducted as salvage archeology, done one step ahead of bulldozers. Such projects are important because they preserve information that otherwise would be lost. Once a site has been dug, whether by construction workers, artifact collectors, or scientists, some of the data at the site inevitably is lost. This information is precious to archeologists and should be precious to the public. Each artifact and structure is a piece of the past, and we all have a right to that heritage.

Preparation

1. Copy the scenario and list of townsfolk for each student.
2. Just before the activity, arrange the classroom to look like a city council meeting with a table for council members, a podium, and seats for members of the community.

Procedure

1. Inform students that they will evaluate the need for a salvage archeology project, then discuss the background information. Distribute copies of the scenario and list of townsfolk.
2. Ask students to read the scenario, then discuss the circumstances and the implications. Ask them to choose roles, understanding that each character has a general attitude which can be developed to logical conclusions.
3. To prepare for the town meeting, ask students to write a short summary of their position and how they intend to express themselves during the meeting.
4. Lead students in a role-playing activity in which they make presentations to the city council in support of their positions. Complete the activity with a town vote based on the possibilities raised in the scenario.

Discuss the results of the scenario and the pros and cons of each position. Guide the discussion with such questions as: Why would it be important to save the archeological site? Can development that provides jobs for the present and future be balanced with preserving the past? How would the students' own position in the community affect their opinion in a controversy like the one in Copper Wells?

Assessment

Ask students to use a cause-and-effect diagram to detail their personal positions on the Copper Wells controversy. Emphasize that to persuade others of the rightness of their viewpoint, they must be aware of its possible effects and anticipate the possible effects of other views.

Scenario—

The Copper Wells Controversy

Copper Wells, a small desert community an hour's drive from a large state capital, was founded near a local copper mine in the late 19th century. When the mine shut down 15 years ago, many jobs were lost. To rejuvenate the area, townsfolk plan to build an amusement park and family entertainment site to attract tourists. The project will include building hotels and campgrounds to accommodate visitors, converting the mine into a museum, and refurbishing the old trolley system.

During the ground-breaking ceremony, the mayor unearthed a 700-year-old artifact made by ancestors of the local Native American tribe. The people of Copper Wells are concerned about this turn of events and how it will affect their plans to revitalize the community, because many people will have to move if the project is not completed. A group of local landowners sees the archeological find as a threat, fearing that, if the site is proved to be a ceremonial site, some state or federal agency might try to force the sale of the land for preservation of the site. Other community members have opposed development from the start, protesting the increased traffic and pollution that it will bring to the area. A town meeting has been called to decide what to do.

Some of the fundamental issues in the dilemma include:

- The plan will create 800 jobs, opportunities for small businesses, and attract thousands of tourists.
- The project land is privately owned and the project will be privately funded; thus, excavation and data recovery are not legally required before construction.
- Some Indian activists want to halt the project to "preserve the homes and memories of our ancestors."
- Archeologists want to excavate the site before construction begins to "save its contents for science, the future, and our common heritage."

Controversy has erupted over the concepts of "progress" and "preserving the past." The story has been picked up by national news agencies.

Roles—

Copper Wells Community Members

Harvey Greenback, mayor. He supports the project, seeing his political career tied to its success.

Ella Dent, city council member. She is a lobbyist for the project.

Ignacio Guerra, city council member. His family was swindled out of land when copper was found. He opposed project zoning changes.

T. J. Richtman, city council member. A wealthy sheep rancher, he has land to lease to new businesses.

Vance McGoode, city council member. A project supporter, he has odd environmental protection ideas and lacks tact and cultural sensitivity.

Philbert Norbert, shop owner and business community spokesperson. He hopes the project will help local livelihoods.

Emma Chippendip, leader of the local environmental activist group.

Otto Bagit, local environmental activist and reformed industrialist.

Flower O'Donnell, environmental activist and cafe owner. She's torn between her possible loss of income and a cleaner environment.

Dr. Oswald Grunwald, state university archeologist. He wants to bid on an excavation at the Copper Wells archeological site, should the town decide to fund such a project.

Alicia Alcaraz, Dr. Grunwald's graduate student. She hopes to use the project as her Ph.D. topic.

Dr. Penelope Smith, archeologist from the state capital.

Angelina Nunn, archeologist from the state museum

Edgar Jones, chair of the local Native American tribe.

Bob "Two Birds" Johnson, vice chair of the local tribe.

Ellie Richardson, Native American tribal member. She teaches math and science at a nearby community college.

Fred Rogers, Native American artisan. He supports the project because it will increase his craft sales.

William D. Wlliamson, mining company president. He will sell the mine to townsfolks for their museum.

Sam Jones, unemployed miner. He looks to the project for his next job.

Rachel Jones, Sam's wife. She is employed at Philbert Norbert's shop.

Anna Sanchez, another unemployed miner.

Juan Carasco, construction worker. He sees the project as the beginning of stable employment.

Margaret Payczech, local construction firm owner. She has contracted to build two project hotels.

Lisa Orlando, noted reporter for a major network. She first broke the Copper Wells story.

Raymond L. Ruhlbraker, legal representative for the project investors. He is involved to protect the initial investment of $1,000,000.

Luke Oldtimer, private landowner. He lives in town but owns a large ranch, and he sees all environmental and preservation laws and activities as a threat to private ownership of land.

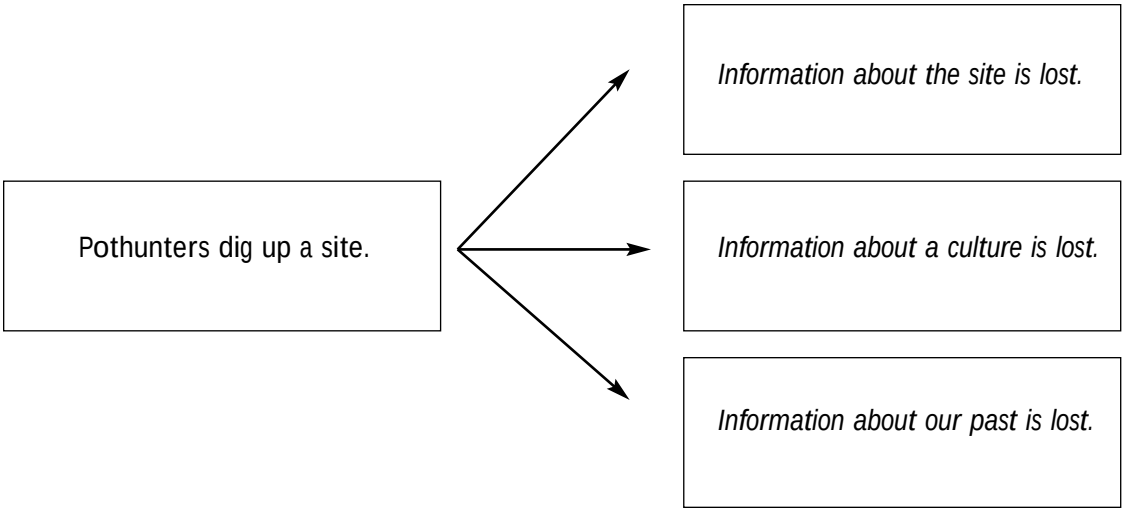
Additional opinionated players as needed to create enough parts.

Writing Strategy: Cause-and-Effect Diagram

Cause and effect organization strategies help students to determine potential outcomes for a certain action. Students move from looking at just the action to evaluating the effects of the action. Cause and effect diagrams help students to list multiple effects of a single cause. Determining all of the effects of a certain action is critical to the scientific method, since it permits anticipation of the effects of research.

Instructions: As an assessment for the lesson plan, teachers are instructed to ask students to use a cause-and-effect diagram to explore their positions in the Copper Wells debate. *Trash Treasures* (from which this activity was adapted) offers the example reproduced below to assist teachers and students with this assignment.

Example of cause-and-effect diagram:



POTHUNTERS—

The Thieves of Time

This activity for "Pothunter or Archeologist" was developed by Judy Meredith, Benold Middle School, Georgetown, Texas.

Rationale: By assessing the results of scientific excavation and those of just digging for artifacts, students learn the difference between archeological investigation and pothunting.

Objective: To understand how disturbing or collecting from archeological sites destroys important information about the past; to understand the importance of applying scientific methods in archeology

Age Level: Grades 4 through 7.

Special Materials: Copies of handout (on reverse of this page); make one for each student, or one copy can be passed from student to student.

Time Required: 15 to 20 minutes for background discussion or reading; 30 to 40 minutes for activity and follow-up discussion.

Procedures:

1. The teacher should first read the "What trained archeologists learned" section of the handout (on reverse of this page) to make sure all of the terms and concepts are familiar before the activity begins.

2. Make copies of the handout for each student (or make one copy to pass around).

3. Begin by having a different student read aloud, in turn, each statement from the "trained archeologist" section. Between readings, discuss and explain the vocabulary and concepts in each statement.

4. When all of the "trained archeologist" statements have been read, direct a general discussion and review of the archeological findings.

5. The teacher should then read aloud the statement of what the pothunter learned. Direct a brief discussion of the difference between archeological investigation and artifact collecting, and the importance of preserving archeological sites.

Background

Archeology is the study of the human past. When archeologists seek to learn about the prehistoric past (the time before written records were available), they rely on the study of material remains. Artifacts, features (areas that show evidence of human activity), and other remains are clues to past behavior. Fragments of artifacts and pieces of burned rock are clues to the past. Pot hunters are more concerned with collecting for collecting's sake and searching for the "perfect" point than they are with finding answers to questions about how past peoples lived. Pothunters have been called "the thieves of time" because they destroy information about the past that cannot be replaced.

A single pothunter,
digging in a site,
can destroy
in a SINGLE DAY
information about
THOUSANDS of years
of prehistory

"Pothunter" or Archeologist— What's the Difference?

The following lists show what archeologists learned from excavating a Late Prehistoric site in the Galveston Bay area and what a pothunter would have learned from excavating the same site.

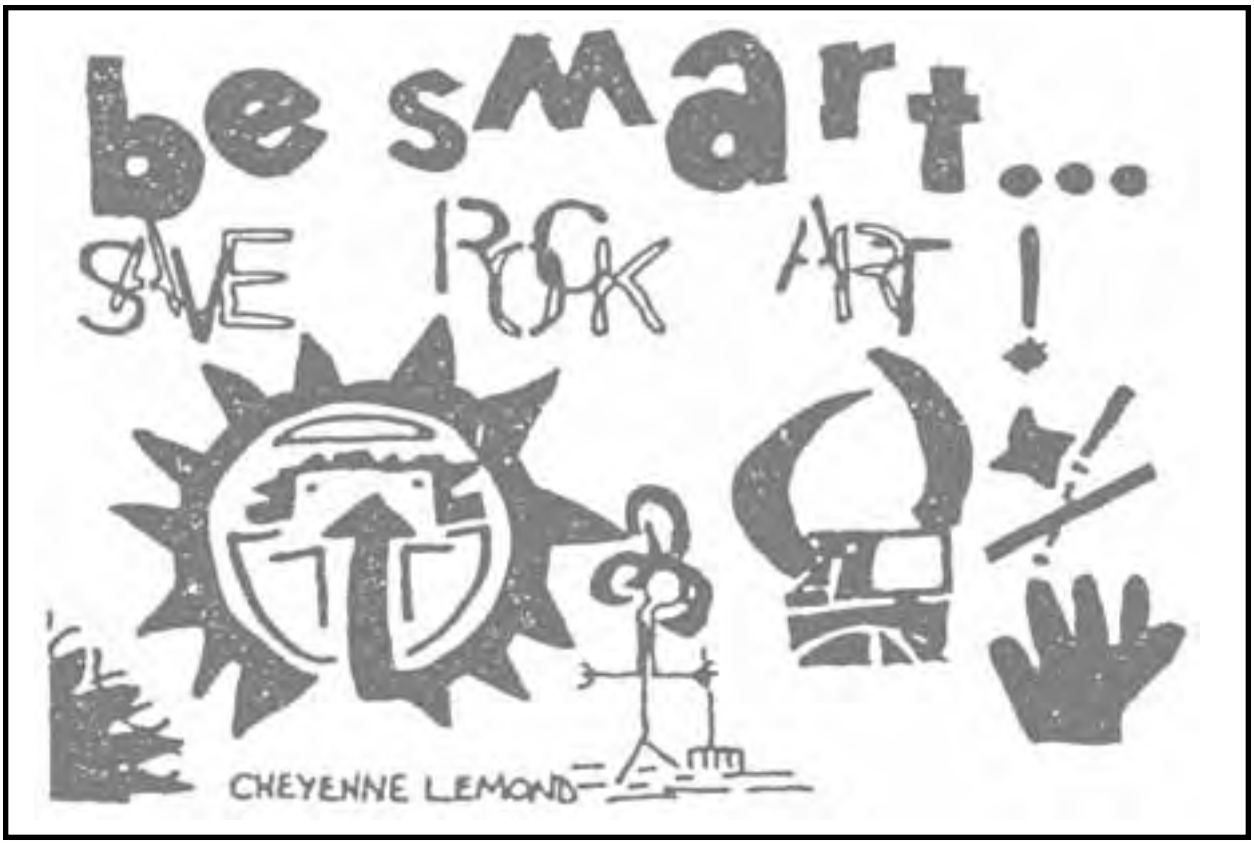
What trained archeologists learned:

1. The people who lived at the site made pottery, hunted with bows and arrows, and buried their dead with objects.
2. The Indians lived in circular, dome-shaped huts made of branches covered with woven mats.
3. The site was first inhabited about 3,500 years ago, primarily during the late summer and early fall. Later, and until about A.D. 500, the Indians returned primarily during the late spring and early summer but made occasional, short visits during the winter.
4. The men made their tools and arrowpoints of stone from local river gravels and from the Edwards Plateau region.
5. The people fished with nets or weirs, snared birds, and gathered mussels, snails, and turtles.
6. The Indians gathered nuts in the fall and cracked them open with stones.
7. Deer were hunted for their meat and hides. Long bones were fashioned into hairpins and sewing tools, rib bones into gaming pieces.
8. Sea shells were made into beads and other ornaments. They also were traded with other groups for stone and other goods.
9. Flutes were made from bird bone that was obtained during the winter bird migrations.
10. Red and yellow ochers (naturally occurring, clayey iron deposits used as pigments) were used to decorate objects and for body painting.
11. The first site occupants came from the Lower Mississippi Valley and brought with them a distinctive pottery style. Pottery styles changed over the years but retained some of the early traits.
12. The Indians buried their dead in a large cemetery near the site.
13. Mortuary practices differed on the basis of social status. Religious leaders were buried with ceremonial objects, craftsmen with their tools, and children with personal items, such as turtle-shell rattles.
14. The highest death rates occurred between infancy and two years of age and among young adult females of child-bearing age.
15. Evidence in the bones indicates that many of the Indians suffered episodes of severe anemia in early childhood.

Concept adapted from Archaeology News, *April 1987. Division of Archaeology, State of Louisiana. Activity for use of this handout developed by Judy Meredith, Georgetown, Texas.*

What a "pothunter" would learn:

1. The people who lived at the site made pottery, hunted with bows and arrows, and buried their dead with objects.



Poster from unit on rock art developed by Eileen Thompson, art teacher, Fort Stockton Middle School, Fort Stockton, Texas.

Additional Activity Ideas for Teachers

If you wish to plan classroom activities to coincide with Texas Archeology Awareness Month (TAAM), an annual October observance, remember to plan ahead. If the activity you choose involves other groups or organizations, contact them as soon as possible. If you plan a research activity, find out if your school or public library has the books you and your students will need. The resources listed in the Resources section of this unit will be useful sources of information for some of these activities.

Displays

Ask your school librarian to display a TAAM poster and books about archeology, North American Indians, Texas Indians, and early Texas settlers during the month of October. Have your students check out a book on one or more of these topics during TAAM. Have students prepare written or oral reports on the books they chose.

Ask your public library to plan a display similar to the one in your school library (see above). Let them know that a TAAM Museum/Libraries Packet can be obtained from the Archeology Division, Texas Historical Commission, P.O. Box 12276, Austin, TX 78711-2276. Plan a library research project for your students, such as the one outlined on the following page.

Create a "rock art" bulletin board in your classroom. Guide students in researching Texas rock art and replicating figures for the bulletin board "rock art panel." Read about and discuss what kinds of pigments the Indians used, how they made brushes, and how they illustrated shamans and hunting magic. Discuss how hand prints might be made.

Field Trips

Contact your local museum and ask what the museum is doing for TAAM. Request activities or exhibits suit-

able for your students during this special week in October.

Contact your county historical commission and ask what the commission plans for TAAM. Request that they plan at least one activity in which students can participate.

Take your class to visit a local museum that has archeological displays.

Contests

Hold a contest, for all classes in your grade level, to design a TAAM poster that is specific to your region. For example the poster might be illustrated with animals and wild plants that Native Americans used, or it could be illustrated with Native Americans involved in specific tasks, such as hunting, making tools, or making pottery. Or, it could feature historic sites, such as early ranches, farms, homesteads, or industries. Or, it could illustrate forces that are likely to destroy archeological sites.

Hold a contest, for all classes in your grade level, to design a bumper sticker or tee shirt for TAAM.

Hold a contest, for all classes in your grade level, to develop the best bulletin board on a TAAM theme. For example: From the map that shows major Native American groups in Texas at the time of European contact, identify the major group(s) that probably lived in your region. Assign the students to learn more about these cultures and produce a bulletin-board mural showing different aspects of their lifeways. The "mural" should include, for example, probable house types, tools, and activities, as well as plants and animals native to the region.

Hold a contest, for all classes in your grade level, for the best individual artwork (drawing, painting, etc.) on a TAAM theme. If clay-working facilities are available, hold a contest for the best replica of Caddoan pottery.

Hold a contest, for all classes in your grade level, for the best poem or essay on a Native American, archeological, or preservation topic.

Research Projects

Have students complete a research project about animals in your region that would have been available to Native American hunting groups and how the animals were used for food and to make clothing, and tools. Begin with extinct animals, such as the mastodon. For much of Texas, the list will include animals that were once common but are now scarce or gone from the region, such as bison (American buffalo), black bear, red wolf, gray timber wolf, and cougar, as well as more familiar species such as deer, rabbit, and squirrels that still live in the region. You should include the horse, because its introduction by the Spanish caused great changes in Native American lifeways. Compile an illustrated "book" with pictures and a brief description of each animal.

Have your class compile information on all the ethnic groups that have lived in your town or county, to celebrate and honor the cultures that are part of your local history. County and local histories in your library should be useful for this project. Also have students conduct oral history interviews of local residents to find out about early settlers, where they came from, and where they lived.

Correlation of Texas Essential Knowledge and Skills

for Seventh Grade Social Studies
and the Activities in *Texas Archeology in the Classroom*

Compiled by Pam Wheat

7.1 History. The student understands traditional historical points of reference in Texas history. Relevant activities:

Time of My Life

Teaching Archeological Time Periods

7.6 History. The student understands how individuals, events, and issues shaped the history of Texas from Reconstruction through the beginning of the 20th century. Relevant activities:

The Buffalo Soldiers Site

A Panhandle Dugout

7.8 Geography. The student uses geographic tools to collect, analyze, and interpret data. Relevant activity:

Making and Using Maps

7.10 Geography. The student understands the effects of the interaction between humans and the environment in Texas during the 19th and 20th centuries. Relevant activities:

Tool Kits and Cultural Differences

Who Camped in the Lower Pecos

7.15 Government. The student understands the structure and functions of government created by the Texas Constitution. Relevant activity:

Learning the Law

7.16.Citizenship. The student understands the rights and responsibilities of Texas citizens. Relevant activities:

Learning the Law

7.21 Social Studies Skills. The student applies critical-thinking skills to organize and use information acquired from a variety of sources, including electronic technology. Relevant activities:

The ABC's of Culture

Button, Button

The Naming of Parts

7.23. Social Studies Skills. The student uses problem-solving and decision-making skills, working independently and with others, in a variety of settings. Relevant activities:

To Dig or Not To Dig

The Thieves of Time